SCHRIFTENVERZEICHNIS (J. Eckert)

Referierte Publikationen in Zeitschriften

1. E. Hellstern, J. Eckert, L. Schultz, "Glass-Forming Ranges of Mechanically Alloyed Powders", *J. Less-Common Metals* **140**, 93 (1988).
2. J. Eckert, L. Schultz, E. Hellstern, K. Urban, "Glass-Forming Range in Mechanically Alloyed Ni-Zr and the Influence of the Milling Intensity", *J. Appl. Phys.* **64**, 3224 (1988).
3. J. Eckert, L. Schultz, K. Urban, "Glass-Forming Ranges in Transition Metal-Zr Alloys Prepared by Mechanical Alloying", *J. Less-Common Metals* **145**, 283 (1988).
4. J. Eckert, L. Schultz, K. Urban, "Formation of Quasicrystals by Mechanical Alloying", *Appl. Phys. Lett.* **55***,* 117 (1989).
5. J. Eckert, L. Schultz, "Preparation of Multilayers for Amorphization by Solid-State Reaction", *J. de Physique Coll.* **C4(51)**, C4-229 (1990).
6. J. Eckert, L. Schultz, K. Urban, "Phase Transitions and Quasicrystal Formation in Al-Cu-Mn Induced by Ball Milling", *Europhys. Lett.* **13***,* 349 (1990).
7. J. Eckert, L. Schultz, K. Urban, "Glass Formation and Extended Solubilities in Mechanically Alloyed Co-Transition Metal Alloys", *J. Less-Common Metals* **166***,* 293 (1990).
8. J. Eckert, L. Schultz, K. Urban, "Compositional Dependence of Quasicrystal Formation in Mechanically Alloyed Al-Cu-Mn", *J. Less-Common Metals* **167***,* 143 (1990).
9. J. Eckert, L. Schultz, K. Urban, "Progress of Quasicrystal Formation during Mechanical Alloying in Al-Cu-Mn and the Influence of the Milling Intensity", *Z. Metallkde.* **81***,* 862 (1990).
10. J. Eckert, L. Schultz, K. Urban, "Amorphization Reaction during Mechanical Alloying: Influence of the Milling Conditions", *J. Mater. Sci.* **26***,* 441 (1991).
11. J. Eckert, L. Schultz, K. Urban, "Synthesis of Ni-Ti and Fe-Ti Alloys by Mechanical Alloying: Formation of Amorphous Phases and Extended Solid Solutions", *J. Non-Cryst. Solids* **127***,* 90 (1991).
12. J. Eckert, L. Schultz, K. Urban, "Formation of Quasicrystalline and Amorphous Phases in Mechanically Alloyed Al-Based and Ti-Ni-Based Alloys", *Acta Metall. Mater.* **39***,* 1497 (1991).
13. J. Eckert, L. Schultz, K. Urban, "Quasicrystal Formation and Phase Transitions by Ball Milling", *Mater. Sci. Eng. A* **133***,* 393 (1991).
14. J. Eckert, L. Schultz, K. Urban, "Comparison of Solid-State Amorphization by Mechanical Alloying or Interdiffusion in Ni-Zr", *Mater. Sci. Eng. A* **134***,* 1389 (1991).
15. J. Eckert, L. Schultz, K. Urban, "Comparison of Glass Formation by Mechanical Alloying and Solid-State Interdiffusion in Ni-Zr Composites", *J. Non-Cryst. Solids* **130***,* 273 (1991).
16. J. Eckert, L. Schultz, K. Urban, "Interdiffusion Reaction, Phase Sequence, and Glass Formation in Ni-Zr Composites", *J. Mater. Res.* **6***,* 1874 (1991).
17. J. Eckert, J.C. Holzer, C.E. Krill III, W.L. Johnson, "Structural and Thermodynamic Properties of Nanocrystalline fcc Metals Prepared by Mechanical Attrition", *J. Mater. Res.* **7**, 1751 (1992).
18. J. Eckert, J.C. Holzer, C.E. Krill III, W.L. Johnson, "Reversible Grain Size Changes in Ball-Milled Nanocrystalline Fe-Cu Alloys", *J. Mater. Res.* **7**, 1980 (1992).
19. J. Eckert, J.C. Holzer, W.L. Johnson, "Influence of Microstructure and Composition on the Grain Size of Nanocrystalline Fe-Cu Alloys", *Scripta Metall. Mater.* **27**, 1105 (1992).
20. J. Eckert, J.C. Holzer, W.L. Johnson, "Thermal Stability and Grain Growth Behavior of Mechanically Alloyed Nanocrystalline Fe-Cu Alloys", *J. Appl. Phys.* **73**, 131 (1993).
21. J. Eckert, J.C. Holzer, C.E. Krill III, W.L. Johnson, "Mechanically Driven Alloying and Grain Size Changes in Nanocrystalline Fe-Cu Powders", *J. Appl. Phys.* **73**, 2794 (1993).
22. J. Eckert, J.C. Holzer, C.C. Ahn, Z. Fu, W.L. Johnson, "Melting Behavior of Nanocrystalline Aluminum Powders", *Nanostructured Materials* **2**, 407 (1993).
23. J. Eckert, J.C. Holzer, M. Li, W.L. Johnson, "Effects of Chemistry on the Grain Size Refinement in Nanocrystalline Ru and Ru-C Powders Prepared by Mechanical Alloying", *Nanostructured Materials* **2**, 433 (1993).
24. J. Eckert, "Relationships Governing the Grain Size of Nanocrystalline Metals and Alloys", *Nanostructured Materials* **6**, 413 (1995).
25. M. Seidel, J. Eckert, L. Schultz, "Formation of Amorphous Zr-Al-Cu-Ni with Large Supercooled Liquid Region by Mechanical Alloying", *J. Appl. Phys.* **77**, 5446 (1995).

26. M. Seidel, J. Eckert, L. Schultz, "Mechanically Alloyed Zr-Ti-Cu-Ni Amorphous Alloys with Significant Supercooled Liquid Region", *Mater. Lett.* **23**, 299 (1995).
27. V. Neu, P. Crespo, R. Schäfer, J. Eckert, L. Schultz, "High Remanence NdFeBX (X = Cu, Si, NbCu, Zr) Powders by Mechanical Alloying", *J. Magn. Magn. Mater.* **157/158**, 61 (1996).
28. V. Neu, U. Klement, R. Schäfer, J. Eckert, L. Schultz, "Remanence Enhancement in Mechanically Alloyed Two-Phase Nd-Fe-B Magnetic Material", *Mater. Lett.* **26**, 167 (1996).
29. R. Schäfer, C. Stiller, J. Eckert, U. Klement, S. Roth, L. Schultz, "Domain Studies on Mechanically Alloyed Fe-Zr-B-Cu Nanocrystalline Powder", *IEEE Trans. Magn.* **32**, 4383 (1996).
30. J. Eckert, M. Seidel, L. Schultz, "Formation of Amorphous Alloys with Significant Supercooled Liquid Region by Mechanical Alloying", *J. Non-Cryst. Solids* **205-207**, 500 (1996).
31. M. Seidel, J. Eckert, E. Zueco-Rodrigo, L. Schultz, "Mg-Based Amorphous Alloys with Extended Supercooled Liquid Region Produced by Mechanical Alloying", *J. Non-Cryst. Solids* **205-207**, 514 (1996).
32. C. Stiller, J. Eckert, S. Roth, R. Schäfer, U. Klement, L. Schultz, "Mechanically Alloyed Fe-(Zr, B)-Cu Alloys: Effect of Composition and Heat Treatment on the Microstructure and the Magnetic Properties", *J. Non-Cryst. Solids* **205-207**, 620 (1996).
33. B. Fultz, C.C. Ahn, S. Spooner, L.B. Hong, J. Eckert, W.L. Johnson, "Incipient Chemical Instabilities of Nanophase Fe-Cu Alloys Prepared by Mechanical Alloying", *Metall. Mater. Trans.* **27A**, 2934 (1996).
34. A. Gebert, K. Mummert, J. Eckert, L. Schultz, A. Inoue, "Electrochemical Investigations on the Bulk Glass Forming $Zr_{55}Cu_{30}Al_{10}Ni_5$ Alloy", *Materials and Corrosion* **48**, 293 (1997).
35. J. Eckert, "Massive amorphe Metalle", *Wiss. Z. Techn. Univer. Dresden* **46**, 86 (1997).
36. J. Eckert, K. Jost, L. Schultz, "Synthesis and Properties of Mechanically Alloyed Y-Ni-B-C, *Mater. Lett.* **31**, 329 (1997).
37. J. Eckert, "Mechanical Alloying of Highly Processable Glassy Alloys", *Mater. Sci. Eng.* **A226-228**, 364 (1997).
38. M. Seidel, M. Reibold, I. Bächer, H.-D. Bauer, J. Eckert, L. Schultz, "Progress of Solid State Reaction During Mechanical Alloying of Zr-Al-Cu-Ni Bulk Metallic Glass Forming Alloys", *Mater. Sci. Eng.* **A226-228**, 383 (1997).
39. N. Schlorke, J. Eckert, L. Schultz, "Synthesis of Multicomponent Fe-Based Amorphous Alloys with Significant Supercooled Liquid Region by Mechanical Alloying", *Mater. Sci. Eng.* **A226-228**, 425 (1997).
40. N. Mattern, J. Eckert, M. Seidel, U. Kühn, S. Doyle, I. Bächer, "Relaxation and Crystallization of Amorphous $Zr_{65}Al_{7.5}Cu_{17.5}Ni_{10}$", *Mater. Sci. Eng.* **A226-228**, 468 (1997).
41. I. Börner, J. Eckert, "Nanostructure Formation and Steady-State Grain Size of Ball-Milled Iron Powders", *Mater. Sci. Eng.* **A226-228**, 541 (1997).
42. C. Stiller, J. Eckert, P. Crespo, S. Roth, L. Schultz, "Structural and Magnetic Properties of Nanocrystalline $(FeCu)_{93}Zr_7$ Alloys Prepared by Mechanical Alloying", *Mater. Sci. Eng.* **A226-228**, 577 (1997).
43. J. Eckert, I. Börner, "Nanostructure Formation and Properties of Ball-Milled NiAl Intermetallic Compound", *Mater. Sci. Eng.* **A239-240**, 619 (1997).
44. M. Heilmaier, H. Saage, J. Eckert, "Formation of ODS $L1_2$-$(Al, Cr)_3Ti$ by Mechanical Alloying", *Mater. Sci. Eng.* **A239-240**, 652 (1997).
45. J. Eckert, M. Seidel, A. Kübler, U. Klement, L. Schultz, "Oxide Dispersion Strengthened Mechanically Alloyed Amorphous Zr-Al-Cu-Ni Composites", *Scripta Mater.* **38**, 595 (1998).
46. A. Kübler, J. Eckert, A. Gebert, L. Schultz, "Influence of Impurities on the Viscosity of Zr-Al-Cu-Ni Metallic Glasses in the Undercooled Liquid Region", *J. Appl. Phys.* **83**, 3438 (1998).
47. M. Seidel, M. Reibold, J. Eckert, "Investigations of the Solid State Reaction Process in Mechanically Alloyed Zr-Al-Cu-Ni Bulk Metallic Glasses by Analytical Transmission Electron Microscopy", *Fresenius J. Anal. Chem.* **361**, 740 (1998).
48. J. Eckert, N. Mattern, M. Zinkevitch, M. Seidel, "Crystallization Behavior and Phase Formation in Zr-Al-Cu-Ni Metallic Glass Containing Oxygen", *Mater. Trans. JIM.* **39**, 623 (1998).
49. N. Mattern, S. Roth, G. Henninger, H. Hermann, J. Eckert, "Structural and Magnetic Properties of Amorphous $(Zr_{65}Al_{7.5}Cu_{17.5}Ni_{10})_{100-x}Fe_x$ Alloys", *J. Phys.: Condensed Matter* **10**, L575 (1998).

50. A. Gebert, J. Eckert, L. Schultz, "Effect of Oxygen on Phase Formation and Thermal Stability of Slowly Cooled $Zr_{65}Al_{7.5}Cu_{17.5}Ni_{10}$ Metallic Glass", *Acta Mater*. **46**, 5475 (1998).
51. A. Leonhard, L.Q. Xing, M. Heilmaier, A. Gebert, J. Eckert, L. Schultz, "Effect of Crystalline Precipitations on the Mechanical Behavior of Bulk Glass Forming Zr-Based Alloys", *Nano-structured Materials* **10**, 805 (1998).
52. L.Q. Xing, J. Eckert, W. Löser, L. Schultz, "Effect of Cooling Rate on the Precipitation of Quasicrystals from the Zr-Cu-Al-Ni-Ti Amorphous Alloy", *Appl. Phys. Lett.* **73**, 2110 (1998).
53. L.Q. Xing, J. Eckert, W. Löser, L. Schultz, "High-Strength Materials Produced by Precipitation of Icosahedral Quasicrystals in Bulk Zr-Ti-Cu-Ni-Al Amorphous Alloys", *Appl. Phys. Lett.* **74**, 664 (1999).
54. N. Schlorke, J. Eckert, L. Schultz, "Thermal and Magnetic Properties of Bulk Glass Forming Fe-Al-P-C-B-(Ga) Alloys", *J. Phys. D: Appl. Phys.* **32**, 855 (1999).
55. L.Q. Xing, J. Eckert, W. Löser, L. Schultz, D.M. Herlach, "Crystallization Behaviour and Nano-crystalline Microstructure Evolution of a $Zr_{57}Cu_{20}Al_{10}Ni_8Ti_5$ Bulk Amorphous Alloy", *Philos. Mag.* **A79**, 1095 (1999).
56. M. Multigner, A. Hernando, P. Crespo, C. Stiller, J. Eckert, L. Schultz, "Structural and Magnetic Properties of Mechanically Alloyed $(Fe_xCu_{1-x})_{93}Zr_7$ (x = 0.5, 0.7) Solid Solutions", *J. Magn. Magn. Mater.* **196-197**, 214 (1999).
57. J. Eckert, A. Kübler, L. Schultz, "Mechanically Alloyed $Zr_{55}Al_{10}Cu_{30}Ni_5$ Metallic Glass Composites Containing Nanocrystalline W-Particles", *J. Appl. Phys.* **85**, 7112 (1999).
58. L. Ledig, D. Hough, C.-G. Oertel, J. Eckert, W. Skrotzki, "Nanocrystal Formation, Amorphization and Superconductivity in YNi_2B_2C", *J. Alloys & Compounds* **285**, 27 (1999).
59. A. Gebert, K. Buchholz, A. Leonhard, K. Mummert, J. Eckert, L. Schultz, "Investigations on the Electrochemical Behaviour of Zr-Based Bulk Metallic Glasses", *Mater. Sci. Eng.* **A267**, 294 (1999).
60. F. Schurack, J. Eckert, L. Schultz, "High Strength Al-Alloys with Nano-Quasicrystalline Phase as Main Component", *Nanostructured Materials* **12**, 107 (1999).
61. N. Schlorke, B. Weiß, J. Eckert, L. Schultz, "Properties of Mg-Y-Cu Glasses with Nanocrystalline Particles", *Nanostructured Materials* **12**, 127 (1999).
62. J. Eckert, M. Seidel, L.Q. Xing, I. Börner, B. Weiß, "Nanophase Composites in Easy Glass Forming Alloys", *Nanostructured Materials* **12**, 439 (1999).
63. A. Kübler, J. Eckert, L. Schultz, "Nanoparticles in an Amorphous $Zr_{55}Al_{10}Cu_{30}Ni_5$ Matrix - The Formation of Composites by Mechanical Alloying", *Nanostructured Materials* **12**, 443 (1999).
64. L.Q. Xing, J. Eckert, L. Schultz, "Deformation Mechanism of Amorphous and Partially Crystallized Alloys", *Nanostructured Materials* **12**, 503 (1999).
65. J. Eckert, "Mechanical Alloying of Bulk Metallic Glass Forming Systems", ", *J. Metastable and Nanocrystalline Materials* **2-6**, 3 (1999).
66. F. Schurack, I. Börner, J. Eckert, L. Schultz, "Synthesis and Properties of Mechanically Alloyed and Ball Milled High Strength Amorphous or Quasicrystalline Al-Alloys", *J. Metastable and Nanocrystalline Materials* **2-6**, 49 (1999).
67. A. Gümbel, L. Ledig, D. Hough, C.-G. Oertel, W. Skrotzki, J. Eckert, L. Schultz, "Mechanically Attritred Superconducting Y-TM-B-C Borocarbides (TM = Ni, Pd)", *J. Metastable and Nanocrystalline Materials* **2-6**, 61 (1999).
68. M. Leonhardt, H.-G. Lindenkreuz, W. Löser, J. Eckert, "Metastable Phase Formation and Microstructure Evolution from Undercooled Eutectic Melts", *J. Metastable and Nanocrystalline Materials* **2-6**, 275 (1999).
69. G.J. Fan, M.X. Quan, Z.Q. Hu, W. Löser, J. Eckert, "Deformation-Induced Microstructural Changes in $Fe_{40}Ni_{40}P_{34}B_6$ Metallic Glass", *J. Mater. Res.* **14**, 3765 (1999).
70. N. Mattern, H. Ehrenberg, A. Knapp, H. Hermann, J. Eckert, "Short-Range Order of Amorphous $(Zr_{65}Al_{7.5}Cu_{17.5}Ni_{10})_{100-x}Fe_x$ Alloys", *Phys. Stat. Sol. (a)* **175**, 449 (1999).
71. G.J. Fan, W. Löser, S. Roth, J. Eckert, L. Schultz, "Magnetic Properties of Cast $Nd_{60-x}Fe_{20}Al_{10}Co_{10}Cu_x$ Alloys", *Appl. Phys. Lett.* **75**, 2984 (1999).
72. J. Eckert, N. Schlorke-de Boer, B. Weiß, L. Schultz, "Mechanically Alloyed Mg-Based Metallic Glasses and Metallic Glass Composites Containing Nanocrystalline Particles", *Z. Metallkde.* **90**, 908 (1999).

73. G.J. Fan, M.X. Quan, Z.Q. Hu, J. Eckert, L. Schultz, "In-Situ Formation of $NbSi_2$-Based Nanocomposites by Mechanical Alloying", *Scripta Mater.* **41**, 1147 (1999).
74. N. Ismail, M. Uhlemann, A. Gebert, J. Eckert, "Hydrogenation and its Effect on the Crystallization Behaviour of $Zr_{55}Cu_{30}Al_{10}Ni_5$ Metallic Glass", *J. Alloys & Compounds* **298**, 146 (2000).
75. L.C. Damonte, L. Mendoza-Zélis, J. Eckert, "Short Range Order in Bulk Zr- and Hf-Based Amorphous Alloys", *Mater. Sci. Eng*. **A278**, 16 (2000).
76. W.H. Wang, Z.X. Bao, C.X. Liu, D.Q. Zhao, J. Eckert, "Equation of State of $Zr_{41}Ti_{14}Cu_{12.5}Ni_{10}Be_{22.5}$ Bulk Metallic Glass", *Phys. Rev.* **B61**, 3166 (2000).
77. J.Z. Jiang, J.S. Olsen, L. Gerward, S. Abdali, J. Eckert, N. Schorke-de Boer, L. Schultz, J. Truckenbrodt, P.X. Shi, "Pressure Effect on Crystallization of Metallic Glass $Fe_{72}P_{11}C_6Al_5B_4Ga_2$ Alloy with Wide Supercooled Liquid Region", *J. Appl. Phys*. **87**, 2664 (2000).
78. C.-G. Oertel, L. Ledig, J. Eckert, W. Skrotzki, "Superconductivity of Annealed and Consolidated Amorphous YNi_2B_2C Powders", *Cryst. Res. Technol.* **35**, 427 (2000).
79. G.J. Fan, J. Eckert, W. Löser, S. Roth, L. Schultz, "Effect of Co and Cu Alloying on Nd-Fe-Al Based Bulk Amorphous Alloys", *J. Metastable and Nanocrystalline Materials* **8**, 97 (2000).
80. B. Weiß, J. Eckert, "Thermal Stability and Viscosity of Mg-Based Glasses and Composites", *J. Metastable and Nanocrystalline Materials* **8**, 129 (2000).
81. W.H. Wang, Z.X. Bao, J. Eckert, "Pressure-Volume Relation of Zr-Ti-Cu-Ni-Be Bulk Metallic Glass", *J. Metastable and Nanocrystalline Materials* **8**, 146 (2000).
82. N. Mattern, H.-D. Bauer, J. Eckert, "Formation of Nanocrystals in Zr-Al-Cu-Ni Alloys", *J. Metastable and Nanocrystalline Materials* **8**, 185 (2000).
83. K. Buchholz, A. Gebert, K. Mummert, J. Eckert, L. Schultz, "Corrosion Behavior of Bulk Amorphous and Crystalline $Zr_{55}Al_{10}Cu_{30}Ni_5$ Alloys at Ambient and Elevated Temperature", *J. Metastable and Nanocrystalline Materials* **8**, 213 (2000).
84. B. Müller, L. Ledig, D. Hough, C.-G. Oertel, W. Skrotzki, A. Gümbel, J. Eckert, "X-Ray Crystallographic Characterization of Nanocrystalline and Amorphous YNi_2B_2C Superconductors", *J. Metastable and Nanocrystalline Materials* **8**, 689 (2000).
85. M. Multigner, A. Hernando, P. Crespo, G. Rivero, A. García-Escorial, C. Stiller, L. Schultz, J. Eckert, "Thermal Decomposition of Mechanically Alloyed $(Fe_xCu_{1-x})_{93}Zr_7$ (x = 0.5, 0.7) Solid Solutions", *J. Metastable and Nanocrystalline Materials* **8**, 800 (2000).
86. G. David, S. Roth, J. Eckert, L. Schultz, "Effect of Annealing in Hydrogen on Composition, Structure and Magnetic Properties of Rapidly Quenched Fe-Co-Si-TM-B Ribbons", *J. Metastable and Nanocrystalline Materials* **8**, 835 (2000).
87. A. Gümbel, J. Eckert, A. Handstein, W. Skrotzki, L. Schultz, "Variation of Superconductivity in Mechanically Alloyed Pseudo-Quaternary Y-Pt/Pd-B-C", *J. Metastable and Nanocrystalline Materials* **8**, 924 (2000).
88. A. Gümbel, J. Eckert, A. Handstein, L. Schultz, "Structural and Superconducting Properties of Mechanically Alloyed $Y\text{-}Pd_{1-x}TM_x\text{-}B\text{-}C$ (TM = Ni, Pt)", *Physica* **B284-288**, 1107 (2000).
89. G. David, S. Roth, J. Eckert, L. Schultz, "Effect of Annealing in Hydrogen on Composition, Structure and Magnetic Properties of Rapidly Quenched Fe-Co-Si-TM-B Ribbons", *J. Magn. Magn. Mater.* **215-216**, 434 (2000).
90. G.J. Fan, W. Löser, S. Roth, J. Eckert, L. Schultz, "Glass Forming Ability and Magnetic Properties of $Nd_{70-x}Fe_{20}Al_{10}Co_x$ Alloys", *J. Mater. Res*. **15**, 1556 (2000).
91. M. Heilmaier, J. Eckert, "The Synthesis and Properties of Zr-Based Metallic Glasses and Glass-Matrix Composites", *JOM* **52**, 43 (2000).
92. A. Gebert, U. Wolff, A. John, J. Eckert, "Corrosion Behaviour of $Mg_{65}Y_{10}Cu_{25}$ Metallic Glass", *Scripta Mater.* **43**, 279 (2000).
93. N. Mattern, U. Kühn, J. Neuefeind, J. Eckert, "Formation of Ultrafine Nanostructure by Crystallization of $Zr_{52}Al_6Cu_{14}Ni_8Fe_{20}$ Metallic Glass", *Appl. Phys. Lett.* **77**, 1153 (2000).
94. A. Reger-Leonhard, M. Heilmaier, Eckert, "Newtonian Flow of $Zr_{55}Cu_{30}Al_{10}Ni_5$ Bulk Metallic Glassy Alloys", *Scripta Mater.* **43**, 459 (2000).
95. L.Q. Xing, J. Eckert, W. Löser, S. Roth, L. Schultz, "Atomic Order and Magnetic Properties in $Nd_{57}Fe_{20}B_8Co_5Al_{10}$ Solids", *J. Appl. Phys.* **88**, 3565 (2000).
96. M. Seidel, J. Eckert, I. Bächer, M. Reibold, L. Schultz, "Progress of Solid State Reaction and Glass Formation in Mechanically Alloyed $Zr_{65}Al_{7.5}Cu_{17.5}Ni_{10}$", *Acta Mater.* **48**, 3657 (2000).

97. L.Q. Xing, T.C. Hufnagel, J. Eckert, W. Löser, L. Schultz, "Relation between Short-Range Order and Crystallization Behavior in Zr-Based Amorphous Alloys", *Appl. Phys. Lett.* **77**, 1970 (2000).
98. G.J. Fan, W. Löser, S. Roth, J. Eckert, "Glass Forming Ability of RE-Al-TM Alloys (RE = Sm, Y; TM = Fe, Co, Cu)", *Acta Mater.* **48**, 3823 (2000).
99. U. Kühn, J. Eckert, N. Mattern, L. Schultz, "As-Cast Quasicrystalline Phase in a Zr-Based Multicomponent Bulk Alloy", *Appl. Phys. Lett.* **77**, 3176 (2000).
100. J.Z. Jiang, T.J. Zhou, H. Rasmussen, U. Kühn, J. Eckert, C. Lathe, "Crystallization in $Zr_{41.2}Ti_{13.8}Cu_{12.5}Ni_{10}Be_{22.5}$ Bulk Metallic Glass under Pressure", *Appl. Phys. Lett.* **77**, 3553 (2000).
101. J. Eckert, A. Kübler, A. Reger-Leonhard, A. Gebert, M. Heilmaier, "Glass Transition, Viscosity of the Supercooled Liquid and Crystallization Behavior of Zr-Al-Cu-Ni-Fe Metallic Glasses", *Mater. Trans. JIM* **41**, 1415 (2000).
102. F. Schurack, J. Eckert, L. Schultz, "Quasicrystalline Al-Alloys with High Strength and Good Ductility", *Mater. Sci. Eng.* **A294-296**, 164 (2000).
103. N. Ismail, M. Uhlemann, A. Gebert, J. Eckert, L. Schultz, "Effect of Hydrogen on $Zr_{65}Cu_{17.5}Al_{7.5}Ni_{10}$ Metallic Glass", *J. Alloys & Compounds* **314**, 170 (2001).
104. J. Eckert, A. Reger-Leonhard, B. Weiß, M. Heilmaier, L. Schultz, "Bulk Nanostructured Multicomponent Alloys", *Adv. Eng. Mater.* **3**, 41 (2001).
105. A. Gebert, U. Wolff, A. John, J. Eckert, L. Schultz "Stability of the Bulk Glass-Forming $Mg_{65}Y_{10}Cu_{25}$ Alloy in Aqueous Electrolytes", *Mater. Sci. Eng.* **A299**, 125 (2001).
106. J. Eckert, A. Reger-Leonhard, B. Weiß, M. Heilmaier, "Nanostructured Materials in Multicomponent Alloy Systems", *Mater. Sci. Eng.* **A300**, 1 (2001).
107. S. Deledda, J. Eckert, L. Schultz, "Nanocrystalline CaO and ZrC as a Second Phase in Amorphous Zr-Cu-Al-Ni Matrix Composites", *J. Metastable and Nanocrystalline Materials* **10**, 85 (2001).
108. N. Mattern, S. Roth, H.-D. Bauer, G. Henninger, J. Eckert, "Influence of Iron Additions on Structure and Properties of Amorphous $Zr_{65}Al_{7.5}Cu_{17.5}Ni_{10}$", *Mater. Sci. Eng.* **A304-306**, 311 (2001).
109. W.H. Wang, R.J. Wang, G.J. Fan, J. Eckert, "Formation and Properties of Zr-(Ti, Nb)-Cu-Ni-Al Bulk Metallic Glasses", *Mater. Trans.* **42**, 587 (2001).
110. J. Eckert, S. Deledda, U. Kühn, A. Reger-Leonhard, "Bulk Metallic Glasses and Composites in Multicomponent Systems", *Mater. Trans.* **42**, 650 (2001).
111. F. Schurack, J. Eckert, L. Schultz, "Synthesis and Mechanical Properties of Cast Quasicrystal-Reinforced Al-Alloys", *Acta Mater.* **49**, 1351 (2001).
112. N. Mitrovic, S. Roth, J. Eckert, "Kinetics of the Glass Transition and Crystallization Process of $Fe_{72-x}Nb_xAl_5Ga_2P_{11}C_6B_4$ (x = 0, 2) Metallic Glasses", *Appl. Phys. Lett.* **78**, 2145 (2001).
113. J. Eckert, U. Kühn, N. Mattern, A. Reger-Leonhard, M. Heilmaier, "Bulk Nanostructured Zr-Based Multiphase Alloys with High Strength and Good Ductility", *Scripta Mater.* **44**, 1587 (2001).
114. I. Börner, J. Eckert, "Phase Formation and Properties of Mechanically Alloyed $Al_{85}Y_8Ni_5Co_2$", *Scripta Mater.* **45**, 237 (2001).
115. N. Mattern, S. Roth, U. Kühn, M. Hofmann, H.-D. Bauer, J. Eckert, "Formation of Nanocrystals by Crystallisation of Zr-Al-Cu-Ni-Fe Metallic Glasses", *Mater. Trans.* **42**, 1509 (2001).
116. A. Gebert, J. Eckert, U. Kühn, A. Reger-Leonhard, "Nanostructured Zr-Based Alloys - Phase Formation and Mechanical Properties", *Chinese Physics* **10**, S40 (2001).
117. S.A. Bakai, I.M. Neklyudov, V.I. Savchenko, J. Eckert, "Investigations of the Mechanisms of Ineleastic Deformation of the Bulk Metallic Glass $Zr_{53.5}Ti_5Cu_{17.5}Ni_{14.6}Al_{10.4}$", *Problems of Atomic Sci. and Technol.* **79**, 12 (2001).
118. A. Gebert, K. Buchholz, A.M. El-Aziz, J. Eckert, "Hot Water Corrosion Behaviour of Zr-Cu-Al-Ni Bulk Metallic Glass", *Mater. Sci. Eng.* **A316**, 60 (2001).
119. A. Gebert, U. Wolff, M. Savyak, J. Eckert, L. Schultz, "Stability and Electrochemical Properties of $Mg_{65}Y_{10}Cu_{25}$ Metallic Glass", *J. Metastable and Nanocrystalline Materials* **11**, 9 (2001).
120. S. Deledda, J. Eckert, L. Schultz, "Thermal Stability of Mechanically Alloyed Zr-Cu-Al-Ni Glass Composites Containing ZrC Particles as a Second Phase", *Scripta Mater.* **46**, 31 (2002).
121. N. Mattern, U. Kühn, H. Hermann, H. Ehrenberg, J. Neuefeind, J. Eckert, "Short-Range Order of $Zr_{62-x}Ti_xAl_{10}Cu_{20}Ni_8$ Bulk Metallic Glasses", *Acta Mater.* **50**, 305 (2002).

122. S. Deledda, J. Eckert, L. Schultz, "Viscosity of Mechanically Alloyed Amorphous Zr-Cu-Al-Ni Matrix Composites in the Supercooled Liquid Region", *J. Metastable and Nanocrystalline Materials* **13**, 71 (2002).
123. P. Crespo, P. Marín, P. Agudo, M. Alocén, A. Hernando, A. García-Escorial, J. Eckert, S. Roth, L. Schultz, "Mechanically Alloyed $(Fe_{0.5}Cu_{0.5})_{100-x}Zr_x$ Alloys", *J. Metastable and Nanocrystalline Materials* **13**, 175 (2002).
124. V.R. Raju, F. Schneider, W. Schwarz, J. Eckert, A. Gebert, "Corrosion Behaviour of Carbon Steel Coated with Zr-Based Metallic Glass", *Materials and Corrosion* **53**, 85 (2002).
125. Z.G. Sun, W. Löser, J. Eckert, K.-H. Müller, L. Schultz, "Phase Separation in $Nd_{60-x}Y_xFe_{30}Al_{10}$ Melt-Spun Ribbons ", *Appl. Phys. Lett.* **80**, 772 (2002).
126. G. Kumar, J. Eckert, S. Roth, W. Löser, S. Ram, L. Schultz, "Magnetic Properties of Nd-Fe-Co(Cu)-Al-B Amorphous Alloys Prepared by Non-Equilibrium Techniques", *J. Appl. Phys.* **91**, 3764 (2002).
127. G. Kumar, J. Eckert, L. Schultz, S. Ram, "Formation and Thermal Stability of Cluster Structure in $Nd_{55}Cu_{15}Ni_{10}Co_5Al_{15}$ Bulk Amorphous Alloy", *Mater. Lett.* **53**, 305 (2002).
128. U. Kühn, J. Eckert, N. Mattern, L. Schultz, "ZrNbCuNiAl Bulk Metallic Glass Composites Containing Dendritic bcc Phase Precipitates", *Appl. Phys*. *Lett.* **80**, 2478 (2002).
129. A. Gümbel, J. Eckert, G. Fuchs, K. Nenkov, K.-H. Müller, L. Schultz, "Improved Superconducting Properties in Nanocrystalline Bulk MgB_2", *Appl. Phys. Lett.* **80**, 2725 (2002).
130. R. Klemm, E. Thiele, C. Holste, J. Eckert, N. Schell, "Thermal Stability of Grain Structure and Defects in Submicrocrystalline and Nanocrystalline Nickel", *Scripta Mater.* **46**, 685 (2002).
131. B.S.S. Daniel, A. Reger-Leonhard, M. Heilmaier, J. Eckert, L. Schultz, "Thermal Relaxation and High Temperature Creep of $Zr_{55}Cu_{30}Al_{10}Ni_5$ Bulk Metallic Glass", *Mechanics of Time-Dependent Materials* **6**, 193 (2002).
132. N. Schlorke-de Boer, R. Schäfer, J. Eckert, L. Schultz, "Drastic Coercivity Relaxation in Amorphous $Fe_{74}Al_5P_{11}C_6B_4$ and its Dependence on the Preparation Method", *J. Appl. Phys.* **91**, 6601 (2002).
133. N. Ismail, M. Uhlemann, A. Gebert, J. Eckert, L. Schultz, "The Electrochemical Hydrogen Sorption Behaviour of Zr-Cu-Al-Ni Metallic Glasses", *Mater. Trans.* **43**, 1133 (2002).
134. Z.G. Sun, W. Löser, J. Eckert, K.-H. Müller, L. Schultz, "Magnetic Properties of $Nd_{60-x}Y_xFe_{30}Al_{10}$ (x = 0, 10, 30) Melt-Spun Ribbons Containing Two Amorphous Magnetic Phases", *J. Appl*. *Phys*. **91**, 9267 (2002).
135. Min Qi, X.D. Wang, S. Deledda, J. Eckert, L. Schultz, "Influence of Si Addition and Relaxation on the Crystallization of Zr-Al-Ni-Cu-Based Amorphous Alloys", *J. Mater. Sci. Lett.* **21**, 893 (2002).
136. N. Mattern, J. Eckert, U. Kühn, H. Hermann, J. Sakowski, G. Herms, J. Neuefeind, "Structural Behavior of $Zr_{52}Ti_5Cu_{18}Ni_{15}Al_{10}$ Bulk Metallic Glass at High Temperatures", *Appl. Phys. Lett.* **80**, 4525 (2002).
137. M. Stoica, J. Eckert, S. Roth, L. Schultz, A.R. Yavari, Å. Kvick, "Casting and Phase Transformations of $Fe_{65.5}Cr_4Mo_4Ga_4P_{12}C_5B_{5.5}$ Bulk Metallic Glass", *J. Metastable and Nanocrystalline Materials* **12**, 77 (2002).
138. J. Degmova, S. Roth, J. Eckert, L. Schultz, "Preparation and Magnetic Properties of Ball-Milled and Subsequently Hot Pressed $Fe_{77}Al_{2.14}Ga_{0.86}P_{8.4}C_5B_4Si_{2.6}$ Bulk Metallic Glass", *J. Metastable and Nanocrystalline Materials* **12**, 85 (2002).
139. M. Heilmaier, H. Saage, K.J. Mirpuri, J. Eckert, L. Schultz, P. Singh, "Superposition of Grain Size and Dispersion Strengthening in ODS $L1_2$-$(Al, Cr)_3Ti$", *Mater. Sci. Eng*. **A 329-331**, 106 (2002).
140. S. Roth, H. Grahl, J. Degmova, N. Schlorke-de Boer, M. Stoica, J. Eckert, J.M. Borrego, A. Conde, N.M. Mitrovic, "Magnetic Properties of (Fe, Co)-(Al, Ga, Si)-(B, C, P) Alloys with Large Supercooled Liquid Region: Influence of Preparation Conditions and Heat Treatment", *J. Optoelectronics and Advanced Materials* **4**, 199 (2002).
141. R.M. Srivastava, J. Eckert, W. Löser, B.K. Dhindaw, L. Schultz, "Cooling Rate Evaluation for Bulk Amorphous Alloys from Eutectic Microstructures in Casting Processes", *Mater. Trans.* **43**, 1670 (2002).
142. J.M. Borrego, A. Conde, S. Roth, J. Eckert, "Glass-Forming Ability and Soft Magnetic Properties of FeCoSiAlGaPCB Amorphous Alloys", *J. Appl. Phys.* **92**, 2073 (2002).

143. N. Mattern, U. Kühn, J. Sakowski, J. Neuefeind, J. Eckert, "Structure of $Zr_{52}Ti_5Cu_{18}Ni_{15}Al_{10}$ Bulk Metallic Glass at Elevated Temperatures", *Mater. Trans.* **43**, 1947 (2002).
144. M. Stoica, J. Degmova, S. Roth, J. Eckert, H. Grahl, L. Schultz, A.R. Yavari, Å. Kvick, G. Heunen, "Magnetic Properties and Phase Transformations of Bulk Amorphous Fe-Based Alloys Obtained by Different Techniques", *Mater. Trans.* **43**, 1966 (2002).
145. B. Bartusch, F. Schurack, J. Eckert, "High Strength Magnesium-Based Glass Matrix Composites", *Mater. Trans.* **43**, 1979 (2002).
146. R. Sato Turtelli, D. Triyono, R. Grössinger, H. Michor, J.H. Espina, J.P. Sinnecker, H. Sassik, J. Eckert, G. Kumar, Z.G. Sun, G.J. Fan, "Coercivity Mechanis in Melt-Spun $Nd_{60}Fe_{30}Al_{10}$ and $Nd_{60}Fe_{20}Co_{10}Al_{10}$ Alloys", *Phys. Rev. B* **66**, 054441 (2002).
147. N. Mitrovic, S. Roth, J. Eckert, C. Mickel, "Microstructure Evolution and Soft Magnetic Properties of $Fe_{72-x}Nb_xAl_5Ga_2P_{11}C_6B_4$ (x = 0, 2) Metallic Glasses", *J. Phys. D: Appl. Phys.* **35**, 2247 (2002).
148. B.C. Wei, W. Löser, L. Xia, S. Roth, M.X. Pan, W.H. Wang, J. Eckert, "Anomalous Thermal Stability of Nd-Fe-Co-Al Bulk Metallic Glass", *Acta Mater.* **50**, 4357 (2002).
149. U. Wolff, A. Gebert, J. Eckert, L. Schultz, "Effect of Surface Pretreatment on the Electrochemical Activity of a Glass-Forming Zr-Ti-Al-Cu-Ni Alloy", *J. Alloys & Compounds* **346**, 222 (2002).
150. V.V. Tcherdyntsev, S.D. Kaloshkin, A.I. Salimon, E.A. Leonova, I.A. Tomilin, J. Eckert, F. Schurack, V.D. Rogozin, S.D. Pisarev, Yu.P. Trykov, "Al-Cu-Fe Quasicrystalline Phase Formation by Mechanical Alloying", *Materials and Manufacturing Processes* **17**, 825 (2002).
151. J.M. Borrego, C.F. Conde, A. Conde, S. Roth, H. Grahl, A. Ostwald, J. Eckert, "Glass-Forming Ability and Crystallization Behavior of $Co_{62-x}Fe_xNb_6Zr_2B_{30}$ (x = 0, 16) Amorphous Alloys with Large Supercooled Liquid Region", *J. Appl. Phys.* **92**, 6607 (2002).
152. V.R. Raju, U. Kühn, U. Wolff, F. Schneider, J. Eckert, R. Reiche, A. Gebert, "Corrosion Behaviour of Zr-Based Bulk Glass-Forming Alloys Containing Nb or Ti", *Mater. Lett.* **57**, 173 (2002).
153. G. Kumar, J. Eckert, S. Roth, W. Löser, L. Schultz, "Structural and Magnetic Properties of As-Cast Nd-(Fe, Co)-Al Alloys", *Ann. Chim. Sci. Mat.* **27**, 44 (2002).
154. L.Q. Xing, J. Eckert, W. Löser, "Local Ordering Upon Crystallization of Bulk Amorphous Alloys", *Ann. Chim. Sci. Mat.* **27**, 69 (2002).
155. S. Bakai, I.M. Neklyudov, P.I. Stoyev, J. Eckert, U. Kühn, "Mechanisms of Plastic Deformation – Sources of Acoustic Emission in Bulk Metallic Glass $Zr_{52.5}Ti_5Cu_{17.9}Ni_{14.6}Al_{10}$", *Metallofiz. Nov. Tekh.* **24**, 1385 (2002).
156. J. Eckert, U. Kühn, N. Mattern, G. He, A. Gebert, "Structural Bulk Metallic Glasses with Different Length-Scale of Constituent Phases", *Intermetallics* **10**, 1183 (2002).
157. A. Gebert, N. Ismail, U. Wolff, M. Uhlemann, J. Eckert, L. Schultz, "Effects of Electrochemical Hydrogenation of Zr-Based Alloys with High Glass-Forming Ability", *Intermetallics* **10**, 1207 (2002).
158. J.C. Li, M. Zhao, Q. Jiang, J. Eckert, "Surface Coating on Steel by Pressure Friction", *Mater. Sci. Techn.* **18**, 1382 (2002).
159. G. He, W. Löser, J. Eckert, L. Schultz, "Enhanced Plasticity in a Ti-Based Bulk Metallic Glass-Forming Alloy by in situ Formation of a Composite Microstructure", *J. Mater. Res.* **17**, 3015 (2002).
160. V.N. Narozhnyi, G. Fuchs, A. Handstein, A. Gümbel, J. Eckert, K. Nenkov, D. Hinz, O. Gutfleisch, A. Wälte, L.N. Bogacheva, I.E. Kostyleva, K.-H. Müller, L. Schultz, "Comparative Study of Dense Bulk MgB_2 Materials Prepared by Different Methods", *J. Superconductivity: Incorporating Novel Magnetism* **15**, 599 (2002).
161. L. Schultz, A. Bollero, A. Handstein, D. Hinz, A. Kirchner, A. Yan, K.-H. Müller, G. Kumar, J. Eckert, O. Gutfleisch, "Nanocomposite Magnetic Materials", *J. Korean Powder Metallurgy Institute* **9**, 381 (2002).
162. J. Eckert, B. Bartusch, F. Schurack, G. He, L. Schultz, "High Strength Nanostructured Metastable Alloys", *J. Korean Powder Metallurgy Institute* **9**, 394 (2002).
163. G. Kumar, J. Eckert, S. Roth, K.-H. Müller, L. Schultz, "Coercivity Mechanism in Mold-Cast $Nd_{60}Fe_xCo_{30-x}Al_{10}$ Bulk Amorphous Alloys", *J. Alloys & Compounds* **348**, 309 (2003).

164. H. Grahl, S. Roth, J. Eckert, L. Schultz, "Stability and Magnetic Properties of Fe-Based Amorphous Alloys with Supercooled Liquid Region", *J. Magn. Magn. Mater.* **254-255**, 23 (2003).
165. G. Saage, S. Roth, J. Eckert, L. Schultz, "Low Magnetostriction Crystalline Ribbons Prepared by Melt Spinning and Reactive Annealing", *J. Magn. Magn. Mater.* **254-255**, 26 (2003).
166. J.M. Borrego, A. Conde, S. Roth, J. Eckert, "Soft Magnetic Properties of FeCoSiAlGaPCB Amorphous Alloys", *J. Magn. Magn. Mater*. **254-255**, 444 (2003).
167. G. He, J. Eckert, W. Löser, L. Schultz, "Novel Ti-Base Nanostructure-Dendrite-Composite with Enhanced Plasticity", *Nature Mater.* **2**, 33 (2003).
168. L.C. Damonte, L.A Mendoza-Zélis, S. Deledda, J. Eckert, "Effect of Preparation Conditions on the Short-Range Order in Zr-Based Bulk Glass-Forming Alloys", *Mater. Sci. Eng*. **A343**, 194 (2003).
169. R.V. Subba Rao, U. Wolff, S. Baunack, J. Eckert, A. Gebert, "Stability of the $Mg_{65}Y_{10}Cu_{15}Ag_{10}$ Metallic Glass in Neutral and Weakly Acidic Media", *J. Mater. Res.* **18**, 97 (2003).
170. G. Kumar, J. Eckert, S. Roth, W. Löser, L. Schultz, S. Ram, "Effect of Microstructure on the Magnetic Properties of Mold-Cast and Melt-Spun Nd-Fe-Co-Al Amorphous Alloys", *Acta Mater.* **51**, 229 (2003).
171. Z.F. Zhang, J. Eckert, L. Schultz, "Tensile and Fatigue Fracture Mechanisms of a Zr-Based Bulk Metallic Glass", *J. Mater. Res.* **18**, 456 (2003).
172. W. Häßler, C. Rodig, C. Fischer, B. Holzapfel, O. Perner, J. Eckert, K. Nenkov, G. Fuchs, "Low Temperature Preparation of MgB_2 Tapes using Mechanically Alloyed Powder", *Supercond. Sci. Technol.* **16**, 281 (2003).
173. G. Kumar, J. Eckert, W. Löser, S. Roth, L. Schultz, "Effect of Al on Microstructure and Magnetic Properties of Mould-Cast $Nd_{60}Fe_{40-x}Al_x$Alloys", *Scripta Mater.* **48**, 321 (2003).
174. M. Calin, J. Eckert, L. Schultz, "Improved Mechanical Behavior of Cu-Ti-Based Bulk Metallic Glass by *in situ* Formation of Nanoscale Precipitates", *Scripta Mater.* **48**, 653 (2003).
175. R.V. Subba Rao, U. Wolff, S. Baunack, J. Eckert, A. Gebert, "Corrosion Behaviour of the Amorphous $Mg_{65}Y_{10}Cu_{15}Ag_{10}$ Alloy", *Corrosion Science* **45**, 817 (2003).
176. Z.F. Zhang, J. Eckert, L. Schultz, "Difference in Compressive and Tensile Fracture Mechanisms of $Zr_{59}Cu_{20}Al_{10}Ni_8Ti_3$ Bulk Metallic Glass", *Acta Mater.* **51**, 1167 (2003).
177. F. Schurack, J. Eckert, L. Schultz, "AlMnCe Quasicrystalline Composites – Phase Formation and Mechanical Properties", *Philos. Mag.* **83**, 807 (2003).
178. G. He, J. Eckert, W. Löser, "Stability, Phase Transformation and Deformation Behavior of Ti-Base Metallic Glass and Composites", *Acta Mater.* **51**, 1621 (2003).
179. Z.G. Sun, W. Löser, J. Eckert, K.-H. Müller, L. Schultz, "Effect of Cooling Rate on Microstructure and Magnetic Properties of $Nd_{60}Fe_{30}Al_{10}$ Hard Magnetic Alloys", *J. Magn. Magn. Mater.* **261**, 122 (2003).
180. F. Schurack, J. Eckert, L. Schultz, "Synthesis and Mechanical Properties of Mechanically Alloyed Al-Cu-Fe Quasicrystalline Composites", *Philos. Mag.* **83**, 1287 (2003).
181. G. He, Z.F. Zhang, W. Löser, J. Eckert, L. Schultz, "Effect of Ta on Glass Formation, Thermal Stability and Mechanical Properties of a $Zr_{52.25}Cu_{28.5}Ni_{4.75}Al_{9.5}Ta_5$ Bulk Metallic Glass", *Acta Mater.* **51**, 2383 (2003).
182. Z.F. Zhang, Z.G. Wang, J. Eckert, "What Types of Grain Boundaries can be Passed Through by Persistent Slip Bands ?", *J. Mater. Res.* **18**, 1031 (2003).
183. J. Eckert, B. Bartusch, A. Gebert, "The Effect of Nanosized Y_2O_3 as a Second Phase in Mechanically Alloyed Mg-Y-Cu Glass Matrix Composites", *J. Metastable and Nanocrystalline Materials* **15-16**, 37 (2003).
184. S. Scudino, J. Eckert, U. Kühn, L. Schultz, "Formation of Quasicrystals in Zr-Ti-Nb-Cu-Ni-Al Melt-Spun and Ball-Milled Multicomponent Alloys", *J. Metastable and Nanocrystalline Materials* **15-16**, 67 (2003).
185. J. Eckert, F. Schurack, L. Schultz, "Synthesis and Mechanical Properties of High Strength Aluminum-Based Quasicrystalline Composites", *J. Metastable and Nanocrystalline Materials* **15-16**, 245 (2003).
186. M. Calin, J. Eckert, L. Schultz, "High-Strength Cu-Ti-Rich Bulk Metallic Glasses and Nano-Composites", *Z. Metallkde.* **94**, 615 (2003).
187. G. He, W. Löser, J. Eckert, "Microstructure and Mechanical Properties of the $Zr_{66.4}Cu_{10.5}Ni_{8.7}Al_8Ti_{6.4}$ Metallic Glass-Forming Alloy", *Scripta Mater.* **48**, 1531 (2003).

188. G. He, W. Löser, J. Eckert, L. Schultz, "Phase Transformation and Mechanical Properties of Zr-Base Bulk Glass-Forming Alloys", *Mater. Sci. Eng.* **A352**, 179 (2003).
189. G. Fuchs, S.L. Drechsler, K.-H. Müller, A. Handstein, S.V. Shulga, G. Behr, A. Gümbel, J. Eckert, K. Nenkov, V.N. Narozhnyi, L. Schultz, H. Eschrig, S. Otani, H. Rosner, W.E. Pickett, "A Comparative Study of MgB_2 and other Diborides", *J. Low-Temp. Phys.* **131**, 1159 (2003).
190. Z.G. Sun, W. Löser, J. Eckert, K.-H. Müller, L. Schultz, T. Zhu, Z.H. Cheng, "Structural and Magnetic Properties of $Nd_{60}Fe_{30-x}Co_xAl_{10}$ Melt-Spun Ribbons", *J. Appl. Phys.* **93**, 6930 (2003).
191. A. Gümbel, O. Perner, J. Eckert, G. Fuchs, K. Nenkov, K.-H. Müller, L. Schultz, "High Density Nanocrystalline MgB_2 Bulk Superconductors with Improved Pinning", *IEEE Trans. Appl. Supercond.* **13**, 3064 (2003).
192. J. Das, W. Löser, U. Kühn, J. Eckert, S.K. Roy, L. Schultz, "High-Strength Zr-Nb-(Cu, Ni, Al) Composites with Enhanced Plasticity", *Appl. Phys. Lett.* **82**, 4690 (2003).
193. Z.F. Zhang, G. He, J. Eckert, L. Schultz, "Fracture Mechanisms in Bulk Metallic Glassy Materials", *Phys. Rev.Lett.* **91**, 045505 (2003).
194. L.L. Sun, W.K. Wang, L.M. Wang, T. Kikegawa, Q. Wu, J. Zhang, C.Z. Fan, J. Eckert, L. Schultz, "Structural Evaluation of $Fe_{60}Co_{10}Zr_8Mo_5Nb_2B_{15}$ Metallic Glass under High Pressure", *Phys. Rev. B* **68**, 052302 (2003).
195. J. Bednarčik, P. Kollár, S. Roth, J. Eckert, "Co-Based Soft Magnetic Bulk Amorphous Ferromagnets Prepared by Powder Consolidation", *Phys. Stat. Sol. (a)* **199**, 299 (2003).
196. C. Fischer, C. Rodig, W. Häßler, O. Perner, J. Eckert, K. Nenkov, G. Fuchs, H. Wendrock, B. Holzapfel, L. Schultz, "Preparation of MgB_2 Tapes using a Nanocrystalline Partially Reacted Precursor", *Appl. Phys. Lett.* **83**, 1803 (2003).
197. S. Scudino, J. Eckert, U. Kühn, L. Schultz, "Formation of Quasicrystals by Partial Devitrification of Ball-Milled Amorphous $Zr_{57}Ti_8Nb_{2.5}Cu_{13.9}Al_{7.5}$", *Appl. Phys. Lett.* **83**, 2345 (2003).
198. J. Eckert, G. He, J. Das, W. Löser, "Nanostructured Composites in Multicomponent Alloy Systems", *Mater. Trans.* **44**, 1999 (2003).
199. G. He, W. Löser, J. Eckert, "In-Situ Formed Ti-Cu-Ni-Sn-Ta Nanostructure-Dendrite Composite with Large Plasticity", *Acta Mater.* **51**, 5223 (2003).
200. G. He, J. Eckert, Q.L. Dai, M.L. Sui, W. Löser, M. Hagiwara, E. Ma, "Nanostructured Ti-Based Multi-Component Alloys with Potential for Biomedical Applications", *Biomaterials* **24**, 5115 (2003).
201. J. Das, A. Güth, H.-J. Klauß, C. Mickel, W. Löser, J. Eckert, S.K. Roy, L. Schultz, "Effect of Casting Conditions on Microstructure and Mechanical Properties of High-Strength $Zr_{73.5}Nb_9Cu_7Ni_1Al_{9.5}$ In-Situ Composites", *Scripta Mater.* **49**, 1189 (2003).
202. G. He, W. Löser, J. Eckert, "Devitrification and Phase Transformation of $(Ti_{0.5}Cu_{0.25}Ni_{0.15}Sn_{0.05}Zr_{0.05})_{100-x}Mo_x$ Metallic Glasses", *Scripta Mater.* **50**, 7 (2004).
203. A. Slipenyuk, J. Eckert, "Correlation between Enthalpy Change and Free Volume Reduction during Structural Relaxation of $Zr_{55}Cu_{30}Al_{10}Ni_5$ Metallic Glass", *Scripta Mater.* **50**, 39 (2004).
204. M. Savyak, S. Hirnyj, H.-D. Bauer, M. Uhlemann, J. Eckert, L. Schultz, A. Gebert, "Electrochemical Hydrogenation of $Mg_{65}Cu_{25}Y_{10}$ Metallic Glass", *J. Alloys & Compounds* **50**, 39 (2004).
205. G. He, J. Eckert, W. Löser, M. Hagiwara, "Processing Dependence of Young's Modulus of Ti-Base Nanostructured Alloys", *Solid State Commun.* **129**, 711 (2004).
206. Z.G. Sun, G. Kumar, W. Löser, J. Eckert, L. Schultz, "Effect of Y Addition on the Microstructure and Magnetic Properties of $Nd_{60-x}Y_xFe_{30}Al_{10}$ Mould-Cast Alloys", *J. Alloys & Compounds* **366**, 248 (2004).
207. G. He, J. Eckert, M. Hagiwara, "Glass-Forming Ability and Crystallization Behavior of Ti-Cu-Ni-Sn-M (M = Zr, Mo, and Ta) Metallic Glasses", *J. Appl. Phys.* **95**, 1816 (2004).
208. S. Scudino, U. Kühn, L. Schultz, D. Nagahama, K. Hono, J. Eckert, "Microstructure Evolution upon Devitrification and Crystallization Kinetics of $Zr_{57}Ti_8Nb_{2.5}Cu_{13.9}Ni_{11.1}Al_{7.5}$ Melt-Spun Glassy Ribbon", *J. Appl. Phys.* **95**, 3397 (2004).
209. J. Sort, D.C. Ile, A.P. Zhilyaev, A. Concustell, T. Czeppe, M. Stoica, S. Suriñach, J. Eckert, M.D. Baró, "Cold-Consolidation of Ball-Milled Fe-Based Amorphous Ribbons by High Pressure Torsion", *Scripta Mater.* **50**, 1221 (2004).

210. B.S. Murty, P. Barua, V. Srinivas, F. Schurack, J. Eckert, "Synthesis of $(Al_{65}Cu_{20}Fe_{15})_{100-x}Si_x$ Quasicrystalline Alloys by Mechanical Alloying", *J. Non-Cryst. Solids* **334&335**, 44 (2004).
211. J.M. Borrego, C.F. Conde, A. Conde, S. Roth, J. Eckert, J.M. Greneche, "Mössbauer Study of FeCoSiAlGaPCB Amorphous Alloys", *J. Appl. Phys.* **95**, 4151 (2004).
212. S. Parida, S. Ram, J. Eckert, S. Roth, W. Löser, L. Schultz, "Bulk Glass Forming and Thermal Stability in $Fe_{67.0}Co_{9.5}Nd_{3.0}Dy_{0.5}B_{20}$Alloy", *Mater. Lett.* **58**, 1844 (2004).
213. G. Alcalá, S. Mato, T.G. Woodcock, U. Hangen, J. Eckert, A. Gebert, L. Schultz, "Nanomechanical Characterization of Ti-Base Nanostructure-Dendrite Composite", *Z. Metallkde.* **95**, 317 (2004).
214. G. He, W. Löser, J. Eckert, L. Schultz, "Microstructure, Mechanical Properties and Fracture Mechanism of As-Cast $(Ti_{0.5}Cu_{0.25}Ni_{0.15}Sn_{0.05}Zr_{0.05})_{100-x}Mo_x$ Composites", *Metall. Mater. Trans.* **35A**, 1591 (2004).
215. U. Kamachi Mudali, S. Scudino, U. Kühn, J. Eckert, A. Gebert, "Polarisation Behaviour of the $Zr_{57}Ti_8Nb_{2.5}Cu_{13.9}Ni_{11.1}Al_{7.5}$ Alloy in Different Microstructural States in Acid Solutions", *Scripta Mater.* **50**, 1379 (2004).
216. B.C. Wei, G.S. Yu, W.H. Li, W. Löser, S. Roth, J. Eckert, "Magnetic Properties and Magnetic Domain Structure of Bulk Glass Forming $Nd_{60}Al_{10}Fe_{20}Co_{10}$ Alloy", *Phys. Stat. Sol. (a)* **201**, 1563 (2004).
217. J. Das, S.K. Roy, W. Löser, J. Eckert, L. Schultz, "Novel In-Situ Nanostructure-Dendrite Composites in Zr-Base Multicomponent Alloy System", *Materials and Manufacturing Processes* **19**, 423 (2004).
218. G. He, J. Eckert, W. Löser, M. Hagiwara, "Composition Dependence of the Microstructure and the Mechanical Properties of Nano/Ultrafine-Structured Ti-Cu-Ni-Sn-Nb Alloys", *Acta Mater.* **52**, 3035 (2004).
219. C. Fischer, W. Häßler, C. Rodig, O. Perner, G. Behr, M. Schubert, K. Nenkov, J. Eckert, B. Holzapfel, L. Schultz, "Critical Current Densities of Superconducting MgB_2 Tapes Prepared on the Base of Mechanically Alloyed Precursors", *Physica C* **406**, 121 (2004).
220. S.A. Bakai, I.M. Neklyudov, V.I. Savchenko, J. Eckert, U. Kühn, "About Influence of the Thin Copper Shell on a Plastic Deformation of a Bulk Metallic Glass", *Metallofiz. Nov. Tekh.* **26**, 335 (2004).
221. U. Kühn, J. Eckert, N. Mattern, H.-J. Klauß, L. Schultz, "Zr-Nb-Cu-Ni-Al Glass or Nanocrystalline Matrix Composites Containing Dendritic bcc Phase Precipitates", *J. Metastable and Nanocrystalline Materials* **20-21**, 41 (2004).
222. N. Mattern, U. Kühn, J. Eckert, "Glass Transition and Crystallization of $Zr_{60}Ti_2Al_{10}Cu_{20}Ni_8$ Bulk Metallic Glass", *J. Metastable and Nanocrystalline Materials* **20-21**, 59 (2004).
223. J. Eckert, G. He, Z.F. Zhang, W. Löser, "Fracture-Induced Melting in Glassy and Nanostructured Composite Materials", *J. Metastable and Nanocrystalline Materials* **20-21**, 357 (2004).
224. L.C. Damonte, M.A. Bab, L. Mendoza-Zélis, S. Deledda, J. Eckert, "Local Order Changes in Amorphous $Zr_{52.5}Hf_2Ti_{7.5}Cu_{20}Al_{10}Ni_8$ Alloy upon Crystallization", *J. Metastable and Nanocrystalline Materials* **20-21**, 499 (2004).
225. P. Kollár, J. Bednarčik, S. Roth, H. Grahl, J. Eckert, "Structure and Magnetic Properties of Hot Pressed Co-Based Powder", *J. Magn. Magn. Mater.* **278**, 373 (2004).
226. S. Bossuyt, S.V. Madge, G.Z. Chen, A. Castellero, S. Deledda, J. Eckert, D.J. Fray, A.L. Greer, "Electrochemical Removal of Oxygen for Processing Glass-Forming Alloys", *Mater. Sci. Eng.* **A 375-377**, 240 (2004).
227. J. Degmova, S. Roth, J. Eckert, H. Grahl, L. Schultz, "Magnetic Properties of Bulk Amorphous FeAlGaPCBSi Samples Prepared by Ball-Milling and Subsequent Hot Pressing", *Mater. Sci. Eng.* **A 375-377**, 265 (2004).
228. A. Gebert, R.V. Subba Rao, U. Wolff, S. Baunack, J. Eckert, L. Schultz, "Corrosion Behaviour of the $Mg_{65}Y_{10}Cu_{15}Ag_{10}$ Bulk Metallic Glass", *Mater. Sci. Eng.* **A 375-377**, 280 (2004).
229. D.C. Ile, Á. Révész, H. Grahl, J. Eckert, P. Crespo, P. Marín, A. Hernando, S. Suriñach, J.S. Muñoz, M.D. Baró, "Thermal Stability and Crystallization Behaviour of $Fe_{77}C_5B_4(AlGa)_3(PSi)_{11}$ Metallic Glasses", *Mater. Sci. Eng.* **A 375-377**, 297 (2004).

230. U. Kühn, J. Eckert, N. Mattern, L. Schultz, "Microstructure and Mechanical Properties of Slowly Cooled Zr-Nb-Cu-Ni-Al Composites with Ductile bcc Phase", *Mater. Sci. Eng*. **A 375-377**, 322 (2004).
231. N. Mattern, U. Kühn, H. Hermann, S. Roth, H. Vinzelberg, J. Eckert, "Thermal Behavior and Glass Transition of Zr-Based Bulk Metallic Glasses", *Mater. Sci. Eng.* **A 375-377**, 351 (2004).
232. M. Stoica, J. Eckert, S. Roth, L. Schultz, "Preparation of Bulk Amorphous Fe-Cr-Mo-Ga-P-C-B Alloys by Copper Mold Casting", *Mater. Sci. Eng.* **A 375-377**, 399 (2004).
233. Z.G. Sun, G. Kumar, W. Löser, J. Eckert, K.-H. Müller, L. Schultz, "Glass-Forming Ability of $Nd_{60}TM_{30}Al_{10}$ (TM = Fe, Co, Ni, Cu, Mn) Alloys", *Mater. Sci. Eng.* **A 375-377**, 403 (2004).
234. S. Deledda, J. Eckert, L. Schultz, "Mechanically Alloyed Zr-Cu-Al-Ni-C Glassy Powders", *Mater. Sci. Eng.* **A 375-377**, 804 (2004).
235. G. Kumar, J. Eckert, S. Roth, W. Löser, K.-H. Müller, L. Schultz, "Magnetic Properties of Amorphous Nd-Fe-Co-Al Alloys", *Mater. Sci. Eng.* **A 375-377**, 1083 (2004).
236. G. Saage, S. Roth, J. Eckert, L. Schultz, "Low Magnetostriction Crystalline Ribbons Prepared by Melt-Spinning and Reactive Annealing", *Mater. Sci. Eng.* **A 375-377**, 1125 (2004).
237. B.C. Wei, G.S. Yu, W. Löser, L. Xia, S. Roth, W.H. Wang, J. Eckert, "Deformation Behavior and Dilatometric Measurements of Nd-Fe-Based Bulk Metallic Glass", *Mater. Sci. Eng.* **A 375-377**, 1161 (2004).
238. E. García-Matres, A. Wiedenmann, G. Kumar, J. Eckert, H. Hermann, L. Schultz, "Hard Magnetic Properties of Bulk Amorphous $Nd_{60}Fe_{20}Co_{10}Al_{10}$ Investigated by SANSPOL", *Physica B* **350**, e315 (2004).
239. G. He, M. Hagiwara, J. Eckert, W. Löser, "Inverse Deformation-Fracture Responses between Dendrite and Matrix in Ti-Based Nanostructure-Dendrite Composite", *Phil. Mag. Lett.* **84**, 365 (2004).
240. S. Scudino, J. Eckert, L. Schultz, "Possible Influence of Quenched-In Nuclei on Quasicrystal Formation in Mechanically Alloyed $Zr_{57}Ti_8Nb_{2.5}Cu_{13.9}Ni_{11.1}Al_{7.5}$ Glassy Powder", *J. Mater. Res.* **19**, 2211 (2004).
241. L.-H. Dai, L.-F. Liu, M. Yan, B.-C. Wei, J. Eckert, "Serrated Flow in a Zr-Based Bulk Metallic Glass During Nanoindentation", *Chin. Phys. Lett.* **21**, 1593 (2004).
242. H. Breitzke, K. Lüders, S. Scudino, U. Kühn, J. Eckert, "NMR Investigations of Medium-Range Order and Quasicrystal Formation in $Zr_{59}Cu_{20}Al_{10}Ni_8Ti_3$ Metallic Glass ", *Phys. Rev. B* **70**, 014201 (2004).
243. Q.L. Dai, B.B. Sun, M.L. Sui, G. He, Y. Li, J. Eckert, W.K. Luo, E. Ma, "High Performance Bulk Ti-Cu-Ni-Sn-Ta Nanocomposites Based on a Dendrite-Eutectic Microstructure", *J. Mater. Res.* **19**, 2557 (2004).
244. O. Perner, J. Eckert, W. Häßler, C. Fischer, K.-H. Müller, G. Fuchs, B. Holzapfel, L. Schultz, "Microstructure and Impurity Dependence in Mechanically Alloyed Nanocrystalline MgB_2 Superconductors", *Supercond. Sci. Technol.* **17**, 1148 (2004).
245. M. Calin, H. Grahl, M. Adam, J. Eckert, L. Schultz, "Synthesis and Thermal Stability of Ball-Milled and Melt-Quenched Amorphous and Nanostructured Al-Ni-Nd-Co Alloys", *J. Mater. Sci.* **39**, 5295 (2004).
246. S. Scudino, U. Kühn, L. Schultz, H. Breitzke, K. Lüders, J. Eckert, "Formation of Quasicrystals in Ball-Milled Amorphous Zr-Ti-Nb-Cu-Ni-Al Alloys with Different Nb Content", *J. Mater. Sci.* **39**, 5483 (2004).
247. U. Kamachi Mudali, S. Baunack, J. Eckert, L. Schultz, A. Gebert, "Pitting Corrosion of Bulk Glass-Forming Zirconium-Based Alloys", *J. Alloys & Compounds* **377**, 290 (2004).
248. N. Mattern, J. Sakowski, U. Kühn, H. Vinzelberg, J. Eckert, "Structural Behavior and Glass Transition of Bulk Metallic Glasses", *J. Non-Cryst. Solids* **345-346**, 758 (2004).
249. W. Löser, J. Das, A. Güth, H.-J. Klauß, C. Mickel, U. Kühn, J. Eckert, S.K. Roy, L. Schultz, "Effect of Casting Conditions on Dendrite-Amorphous/Nanocrystalline Zr-Nb-Cu-Ni-Al In-Situ Composites", *Intermetallics* **12**, 1153 (2004).
250. M. Calin, M. Stoica, J. Eckert, A.R. Yavari, L. Schultz, "Phase Formation, Thermal Stability and Crystallization Behavior of $Cu_{47}Ti_{33}Zr_{11}Ni_8X_1$ (X = Fe, Si, Sn, Pb) Bulk Glassy Alloys", *Z. Metallkde.* **95**, 970 (2004).

251. Z.F. Zhang, J. Eckert, L. Schultz, "Fatigue and Fracture Behavior of Bulk Metallic Glass", *Metall. Mater. Trans.* **35A**, 3489 (2004).
252. G. He, J. Eckert, M. Hagiwara, "Effect of Sn on Microstructure and Mechanical Properties ofTi-Base Dendrite-Nano/Ultrafine-Structure-Forming Composites", *Metall. Mater. Trans.* **35A**, 3605 (2004).
253. S. Scudino, C. Mickel, L. Schultz, J. Eckert, X.Y. Yang, D.S. Sordelet, "Quasicrystal Formation in Mechanically Alloyed Zr-Ti-Nb-Cu-Ni-Al Glassy Powders", *Appl. Phys. Lett.* **85**, 4349 (2004).
254. B. Cai, L.Y. Shang, P. Cui, J. Eckert, "Mechanism of Internal Friction in Bulk $Zr_{65}Al_{7.5}Cu_{17.5}Ni_{10}$ Metallic Glass ", *Phys. Rev. B* **70**, 184208 (2004).
255. J. Bednarčik, J. Füzer, P. Kollár, S. Roth, J. Eckert, "Co-Based Soft Magnetic Bulk Materials Prepared by Hot Powder Compaction", *Czechoslovak J. Phys.* **54 Suppl. D**, 81 (2004).
256. N. Mitrović, S. Djukić, S. Roth, J. Eckert, "Magnetoresistance and Magnetoimpedance Effects in DC Joule Heated $Fe_{72}Al_5Ga_2P_{11}C_6B_4$ Amorphous Ribbons", *Czechoslovak J. Phys.* **54 Suppl. D**, 157 (2004).
257. G. Saage, S. Roth, J. Eckert, L. Schultz, "Extraction of Boron $Fe_{80}B_{20}$ Ribbons by Annealing under Hydrogen Flow", *J. Phys. IV France* **120**, 55 (2004).
258. J. Eckert, "Mechanical Alloying of Mg-Based Metallic Glasses and Nanostructured Composites", *Archives of Materials Science* **25**, 321 (2004).
259. R. Sato Turtelli, C. Bormio-Nunes, G. Kumar, R. Grössinger, J. Eckert, L. Schultz, "Magnetostriction of Hard Magnetic $Nd_{80}Fe_{20}$ Mold-Cast Rod", *J. Magn. Magn. Mater.* **285**, 395 (2005).
260. S. Scudino, J. Eckert, C. Mickel, P. Schubert-Bischoff, H. Breitzke, K. Lüders, L. Schultz, "Quasicrystalline Phase Formation in Zr-Ti-Nb-Cu-Ni-(Al) Metallic Glasses", *J. Alloys & Compounds* **387**, 269 (2005).
261. M. Calin, M. Stoica, J. Eckert, A.R. Yavari, L. Schultz, "Glass Formation and Crystallization of $Cu_{47}Ti_{33}Zr_{11}Ni_8X_1$ (X = Fe, Si, Sn, Pb) Alloys", *Mater. Sci. Eng.* **A 392**, 169 (2005).
262. I. Mazilu, W. Löser, G. Behr, J. Werner, J. Eckert, L. Schultz, "Element Segregation during Crystal Growth Processes of $Ce_2Pd_xCo_{1-x}Si_3$ Intermetallic Compounds", *J. Crystal Growth* **275**, e109 (2005).
263. O. Perner, J. Eckert, W. Häßler, C. Fischer, J. Acker, T. Gemming, G. Fuchs, B. Holzapfel, L. Schultz, "Stoichiometry Dependence of Superconductivity and Microstructure in Mechanically Alloyed MgB_2", *J. Appl. Phys.* **97**, 056105 (2005).
264. Z.F. Zhang, J. Eckert, "Unified Tensile Fracture Criterion", *Phys. Rev. Lett.* **94**, 094301 (2005).
265. Z.F. Zhang, G. He, J. Eckert, "Shear and Distensile Fracture Behavior of Ti-Based Composites with Ductile Dendrites", *Phil. Mag.* **85**, 897 (2005).
266. S. Mato, G. Alcalá, T.G. Woodcock, A. Gebert, J. Eckert, L. Schultz, "Corrosion Behaviour of a Ti-Base Nanostructure-Dendrite Composite", *Electrochimica Acta* **50**, 2461 (2005).
267. S. Scudino, J. Eckert, C. Mickel, L. Schultz, "On the Amorphous-to-Quasicrystalline Phase Transformation in Ball-Milled and Melt-Spun $Zr_{58.5}Ti_{8.2}Cu_{14.2}Ni_{11.4}Al_{7.7}$ Glassy Alloys", *J. Non-Cryst. Solids* **351**, 856 (2005).
268. S.N. Kane, N. Mitrović, A. Gupta, S. Roth, F. Mazaleyrat, J. Eckert, "Influence of Nb Addition on Structural and Magnetic Properties of FeNbAlGaPCB Metallic Glasses", *J. Magn. Magn. Mater.* **290-291**, 1461 (2005).
269. M. Stoica, S. Roth, J. Eckert, L. Schultz, M.D. Baró, "Bulk Amorphous FeCrMoGaPCB: Preparation and Magnetic Properties", *J. Magn. Magn. Mater.* **290-291**, 1480 (2005).
270. T.G. Woodcock, G. Alcalá, S. Mato, A. Gebert, W. Löser, J. Eckert, L. Schultz, "Microstructural and Nano-Mechanical Characterisation of In-Situ Formed, Ti-Base Multicomponent Composites with a Nanocrystalline Matrix ", *Adv. Eng. Mater.* **7**, 197 (2005).
271. K.B. Kim, J. Das, F. Baier, J. Eckert, "Propagation of Shear Bands in $Ti_{66.1}Cu_8Ni_{4.8}Sn_{7.2}Nb_{13.9}$ Nanostructure-Dendrite Composite During Deformation", *Appl. Phys. Lett.* **86**, 171909 (2005).
272. Z.F. Zhang, G. He, H. Zhang, J. Eckert, "Rotation Mechanism of Shear Fracture Induced by High Plasticity in Ti-Based Nanostructured Composites Containing Ductile Dendrites", *Scripta Mater.* **52**, 945 (2005).

273. K.B. Kim, J. Das, F. Baier, J. Eckert, "Lattice Distortion / Disordering and Local Amorphization in the Dendrites of a $Ti_{66.1}Cu_8Ni_{4.8}Sn_{7.2}Nb_{13.9}$ Nanostructure-Dendrite Composite During Intersection of Shear Bands", *Appl. Phys. Lett.* **86**, 201909 (2005).
274. J. Das, M.B. Tang, K.B. Kim, R. Theissmann, F. Baier, W.H. Wang, J. Eckert, ""Work Hardenable" Ductile Bulk Metallic Glass", *Phys. Rev. Lett.* **94**, 205501 (2005).
275. O. Perner, W. Häßler, C. Fischer, G. Fuchs, B. Holzapfel, L. Schultz, J. Eckert, "Enhanced Critical Current Density in Nanocrystalline Mechanically Alloyed MgB_2 Bulk and Fe Sheathed Tapes", *IEEE Trans. Appl. Supercond.* **15**, 3192 (2005).
276. H. Zhang, X.F. Pan, Z.F. Zhang, J. Das, K.B. Kim, C. Müller, F. Baier, M. Kusy, A. Gebert, G. He, J. Eckert, "Toughening Mechanisms of a Ti-Based Nanostructured Composite Containing Ductile Dendrites", *Z. Metallkde.* **96**, 675 (2005).
277. J. Eckert, U. Kühn, J. Das, S. Scudino, N. Radtke, "Nanostructured Composite Materials with Improved Deformation Behavior", *Adv. Eng. Mater.* **7**, 587 (2005).
278. M. Stoica, J. Eckert, S. Roth, Z.F. Zhang, L. Schultz, W.H. Wang, "Mechanical Behavior of $Fe_{65.5}Cr_4Mo_4Ga_4P_{12}C_5B_{5.5}$ Bulk Metallic Glass", *Intermetallics* **13**, 764 (2005).
279. Y.H. Zhao, M.X. Pan, D.Q. Zhao, W.H. Wang, J. Eckert, "Magnetic Transitions in Dy-Microalloyed Fe-Based Bulk Metallic Glasses", *J. Phys. D: Appl. Phys.* **38**, 2162 (2005).
280. K. Biswas, S. Ram, L. Schultz, J. Eckert, "Crystallization Kinetics of Amorphous $Fe_{67}Co_{9.5}Nd_3Dy_{0.5}B_{20}$", *J. Alloys & Compounds* **397**, 104 (2005).
281. H. Saage, M. Heilmaier, J. Eckert, "On the Orowan Stress in Intermetallic ODS Alloys and its Superposition with Grain Size and Solid Solution Hardening", *Z. Metallkde.* **96**, 801 (2005).
282. S. Venkataraman, E. Rozhkova, J. Eckert, L. Schultz, D.J. Sordelet, "Thermal Stability and Crystallization Kinetics of Cu-Reinforced $Cu_{47}Ti_{33}Zr_{11}Ni_8Si_1$ Metallic Glass Composite", *Intermetallics* **13**, 833 (2005).
283. L.F. Liu, L.H. Dai, Y.L Bai, B.C. Wei, J. Eckert, "Behavior of Multiple Shear Bands in Zr-Based Bulk Metallic Glass", *Mater. Chem. Phys.* **93**, 174 (2005).
284. J. Eckert, J. Das, G. He, W. Löser, E. Ma, Y. Li, M.L. Sui, T.G. Woodcock, A. Gebert, "In Situ Formed Bulk Nanostructured Ti-Base Composites", *J. Metastable and Nanocrystalline Materials* **24-25**, 31 (2005).
285. T.G. Woodcock, F.-Y. Xie, G. Alcalá, S. Mato, W. Löser, A. Gebert, J. Eckert, L. Schultz, "Phase Formation in Quinary Ti-Based Nanocomposites and an Anlogous Ternary System with a View to Thermodynamic Modelling", *J. Metastable and Nanocrystalline Materials* **24-25**, 53 (2005).
286. U. Kühn, J. Eckert, S. Scudino, A. Gebert, N. Radtke, N. Mattern, L. Schultz, "Formation of Quasicrystals in Zr-Ti-Nb-Cu-Ni-Al Alloys by Casting or Annealing", *J. Metastable and Nanocrystalline Materials* **24-25**, 511 (2005).
287. L. Schultz, O. Perner, W. Häßler, C. Fischer, G. Fuchs, B. Holzapfel, J. Eckert, "Mechanically Alloyed MgB_2 Superconductors: Microstructure, Tape Formation and Critical Currents", *J. Metastable and Nanocrystalline Materials* **24-25**, 559 (2005).
288. K.B. Kim, P.J. Warren, B. Cantor, J. Eckert, "Crystallization Behavior of Novel $(Ti_{33}Zr_{33}Hf_{33})_{100-x}(Ni_{50}Cu_{50})$ Alloys with x = 48 to 55", *J. Metastable and Nanocrystalline Materials* **24-25**, 657 (2005).
289. G. Alcalá, A. Concustell, S. Mato, T.G. Woodcock, A. Gebert, M.D. Baró, J. Eckert, "Mechanical Characterization of $Cu_{60}Zr_{22}Ti_{18}$ Bulk Metallic Glasses", *J. Metastable and Nanocrystalline Materials* **24-25**, 669 (2005).
290. M. Heilmaier, J. Eckert, "Elevated Temperature Deformation Behavior of Zr-Based Bulk Metallic Glasses", *Adv. Eng. Mater.* **7**, 833 (2005).
291. K.B. Kim, S. Yi, H. Choi-Yim, J. Das, W.L. Johnson, J. Eckert, "Interfacial Instability-Driven Amorphization/Nanocrystallization in a Bulk $Ni_{45}Cu_5Ti_{33}Zr_{16}Si_1$ Alloy During Solidification", *Phys. Rev. B* **72**, 092102 (2005).
292. X.F. Pan, H. Zhang, Z.F. Zhang, M. Stoica, G. He, J. Eckert, "Vickers Hardness and Compressive Properties of Bulk Metallic Glasses and Nanostructure-Dendrite Composites", *J. Mater. Res.* **20**, 2632 (2005).
293. A. Concustell, J. Sort, G. Alcalá, S. Mato, A. Gebert, J. Eckert, M.D. Baró, "Plastic Deformation and Mechanical Softening of $Pd_{40}Cu_{30}Ni_{10}P_{20}$ Bulk Metallic Glass During Nanoindentation", *J. Mater. Res.* **20**, 2719 (2005).

294. K.B. Kim, J. Das, F. Baier, J. Eckert, "Heterogeneous Distribution of Shear Strains in Deformed $Ti_{66.1}Cu_8Ni_{4.8}Sn_{7.2}Nb_{13.9}$ Nanostructure-Dendrite Composite", *Phys. Stat. Sol. (a)* **202**, 2405 (2005).
295. U. Kühn, J. Eckert, N. Mattern, L. Schultz, "Formation of Micrometer Sized Quasicrystals in Slowly Cooled Zr-Ti-Nb-Cu-Ni-Al Alloys", *Phys. Stat. Sol. (a)* **202**, 2436 (2005).
296. J. Das, K.B. Kim, F. Baier, W. Löser, J. Eckert, "High-Strength Ti-Base Ultrafine Eutectic with Enhanced Ductility", *Appl. Phys. Lett.* **87**, 161907 (2005).
297. M. Calin, J. Eckert, "Formation, Thermal Stability and Deformation Behavior of High-Strength Cu-Based Bulk Glassy and Nanostructured Alloys", *Adv. Eng. Mater.* **7**, 960 (2005).
298. Z.F. Zhang, H. Zhang, X.F. Pan, J. Das, J. Eckert, "Effect of Aspect Ratio on the Compressive Deformation and Fracture Behaviour of Zr-Based Bulk Metallic Glass", *Phil. Mag. Lett.* **85**, 513 (2005).
299. A. Concustell, G. Alcalá, S. Mato, T.G. Woodcock, A. Gebert, J. Eckert, M.D. Baró, "Effect of Relaxation and Primary Nanocrystallization on the Mechanical Properties of $Cu_{60}Zr_{22}Ti_{18}$ Bulk Metallic Glass", *Intermetallics* **13**, 1214 (2005).
300. T.G. Woodcock, M. Kusy, S. Mato, G. Alcalá, J. Thomas, W. Löser, A. Gebert, J. Eckert, L. Schultz, "Formation of a Metastable Eutectic During the Solidification of the Alloy $Ti_{60}Cu_{14}Ni_{12}Sn_4Ta_{10}$", *Acta Mater.* **53**, 5141 (2005).
301. O. Perner, W. Häßler, J. Eckert, C. Fischer, C. Mickel, G. Fuchs, B. Holzapfel, L. Schultz, "Effects of Oxide Particle Addition on Superconductibity in Nanocrystalline MgB_2 Bulk Samples", *Physica C* **432**, 15 (2005).
302. J. Eckert, J. Das, W. Löser, U. Kühn, S.K. Roy, "Ductile Zr-base Bulk Nanostructured Composites: Present State-of-the-Art", *Trans. Indian Institute of Metals* **58**, 1157 (2005).
303. G. Kumar, O. Filip, W. Löser, L. Schultz, J. Eckert, "Cooling Rate Controlled Microstructure and Magnetic Properties of $Fe_{20}Nd_{80}$ Alloys", *Intermetallics* **14**, 47 (2006).
304. A. Slipenyuk, V. Kuprin, Yu. Milman, V. Goncharuk, J. Eckert, "Properties of P/M Processed Particle Reinforced Metal Matrix Composites Specified by Reinforcement Concentration and Matrix-to-Reinforcement Particle Size Ratio", *Acta. Mater.* **54**, 157 (2006).
305. L.F. Liu, L.H. Dai, Y.L Bai, B.C. Wei, J. Eckert, "Characterization of Rate-Dependent Shear Behavior of Zr-based Bulk Metallic Glass Using Shear Punch Testing", *J. Mater. Res.* **21**, 153 (2006).
306. K.B. Kim, J. Das, F. Baier, M.B. Tang, W.H. Wang, J. Eckert, "Heterogeneity of a $Cu_{47.5}Zr_{47.5}Al_5$ Bulk Metallic Glass", *Appl. Phys. Lett.* **88**, 051911 (2006).
307. K.B. Kim, P.J. Warren, B. Cantor, J. Eckert, "Structural Evolution of Nano-Scale Icosahedral Phase in Novel Multicomponent Amorphous Alloys", *Phil. Mag.* **86**, 281 (2006).
308. S. Scudino, J. Eckert, H. Breitzke, K. Lüders, L. Schultz, "Influence of Ball Milling on Quasicrystal Formation in Melt-Spun Zr-Based Glassy Ribbons", *Phil. Mag.* **86**, 367 (2006).
309. G. He, J. Eckert, M. Hagiwara, "Mechanical Properties and Fracture Behavior of the Modified Ti-Base Bulk Metallic Glass-Forming Alloys", *Mater. Lett.* **60**, 656 (2006).
310. U.K. Mudali, U. Kühn, J. Eckert, L. Schultz, A. Gebert, "Corrosion Behaviour of Zirconium-Based Bulk Metallic Glasses", *Trans. Indian Institute of Metals* **59**, 123 (2006).
311. S. Venkataraman, M. Stoica, S. Scudino, T. Gemming, C. Mickel, L. Schultz, J. Eckert, "Revisiting the $Cu_{47}Ti_{33}Zr_{11}Ni_8Si_1$ Glass-Forming Alloys", *Scripta Mater.* **54**, 835 (2006).
312. B.B. Sun, M.L. Sui, Y.M. Wang, Y. Li, G. He, J. Eckert, E. Ma, "Bulk Ti-Based In Situ Nanocomposite with High Strength and Tensile Ductility", *Acta Mater.* **54**, 1349 (2006).
313. S. Venkataraman, S. Scudino, J. Eckert, T. Gemming, C. Mickel, L. Schultz, D.J. Sordelet, "Nanocrystallization of Gas Atomized $Cu_{47}Ti_{33}Zr_{11}Ni_8Si_1$ Metallic Glass", *J. Mater. Res.* **21**, 597 (2006).
314. P. Yu, K.B. Kim, J. Das, F. Baier, W. Xu, J. Eckert, "Fabrication and Mechanical Properties of Ni-Nb Metallic Glass Particle-Reinforced Al-Based Metal Matrix Composite", *Scripta Mater.* **55**, 1445 (2006).
315. K.B. Kim, P.J. Warren, B. Cantor, J. Eckert, "Enhanced Thermal Stability of the Devitrified Nano-Scale Icosahedral Phase in Novel Multicomponent Amorphous Alloys", *J. Mater. Res.* **21**, 823 (2006).

316. S. Scudino, M. Stoica, N. Mattern, H. Breitzke, K. Lüders, A.R. Yavari, J. Eckert, "Is a Particular Quenched-In Short-Range Order Necessary for Quasicrystal Formation from Glassy Precursors ?", *Phys. Stat. Sol. (b)* **243**, R34 (2006).
317. G. Kumar, P. Kerschl, U.K. Rößler, K. Nenkov, K.-H. Müller, L. Schultz, J. Eckert, "High-Field Magnetization and Coercivity of Hard Magnetic Mold-Cast $Nd_{80}Fe_{20}$", *J. Appl. Phys.* **99**, 083904 (2006).
318. S. Venkataraman, W. Löser, J. Eckert, T. Gemming, C. Mickel, P. Schubert-Bischoff, N. Wanderka, L. Schultz, D.J. Sordelet, "Nanocrystal Development in $Cu_{47}Ti_{33}Zr_{11}Ni_8Si_1$ Metallic Glass Powders", *J. Alloys & Compounds* **415**, 162 (2006).
319. S. Scudino, J. Das, M. Stoica, K.B. Kim, M. Kusy, J. Eckert, "High Strength Hexagonal Structured Dendritic Phase Reinforced Zr-Ti-Ni Bulk Alloy with Enhanced Ductility", *Appl. Phys. Lett.* **88**, 201920 (2006).
320. W. Xu, K.B. Kim, J. Das, M. Calin, J. Eckert, "Phase Stability and its Effect on the Deformation Behavior of Ti-Nb-Ta-In/Cr β Alloys", *Scripta Mater.* **54**, 1943 (2006).
321. K.B. Kim, S. Yi, H. Choi-Yim, J. Das, W. Xu, W.L. Johnson, J. Eckert, "Effect of Cu on Local Amorphization in Bulk Ni-Ti-Zr-Si Alloys During Solidification", *Acta Mater.* **54**, 3141 (2006).
322. S. Venkataraman, K. Biswas, B.C. Wei, D.J. Sordelet, J. Eckert, "On the Fragility of $Cu_{47}Ti_{33}Zr_{11}Ni_8Si_1$ Metallic Glass", *J. Phys. D: Appl. Phys.* **39**, 2600 (2006).
323. K. Biswas, S. Ram, S. Roth, L. Schultz, J. Eckert, "Fabrication of Bulk Amorphous $Fe_{67}Co_{9.5}Nd_3Dy_{0.5}B_{20}$ Alloy by Hot Extrusion of Ribbon and Study of the Magnetic Properties", *J. Mater. Sci.* **41**, 3445 (2006).
324. A. Castellero, S. Bossuyt, M. Stoica, S. Deledda, J. Eckert, G.Z. Chen, D.J. Fray, A.L. Greer, "Improvement of the Glass-Forming Ability of $Zr_{55}Cu_{30}Al_{10}Ni_5$ and $Cu_{47}Ti_{34}Zr_{11}Ni_8$ Alloys by Electro-Deoxydation of the Melts", *Scripta Mater.* **55**, 87 (2006).
325. K. Biswas, S. Venkataraman, W.Y. Zhang, S. Ram, J. Eckert, "Glass-Forming Ability and Fragility Parameter of Amorphous $Fe_{67}Co_{9.5}Nd_3Dy_{0.5}B_{20}$", *J. Appl. Phys.* **100**, 023501 (2006).
326. W. Xu, K.B. Kim, J. Das, M. Calin, B. Rellinghaus, J. Eckert, "Deformation-Induced Nanostructuring in a Ti-Nb-Ta-In β Alloy", *Appl. Phys. Lett.* **89**, 031906 (2006).
327. U. Kühn, J. Eckert, L. Schultz, "Annealing-Induced Phase Transitions in a Zr-Ti-Nb-Cu-Ni-Al Bulk Metallic Glass Matrix Composite Containing Quasicrystalline Precipitates", *Int. J. Mater. Res. (formerly Z. Metallkde.)* **97**, 996 (2006).
328. L.C. Zhang, J. Xu, J. Eckert, "Thermal Stability and Crystallization Kinetics of Mechanically Alloyed TiC/Ti-Based Metallic Glass Matrix Composite", *J. Appl. Phys.* **100**, 033514 (2006).
329. K.B. Kim, J. Das, X. Wu, Z.F. Zhang, J. Eckert, "Microscopic Deformation Mechanism of a $Ti_{66.1}Nb_{13.9}Ni_{4.8}Cu_8Sn_{7.2}$ Nanostructure-Dendrite Composite", *Acta Mater.* **54**, 3701 (2006).
330. K.B. Kim, J. Das, S. Venkataraman, S. Yi, J. Eckert, "Work Hardening Ability of Ductile $Ti_{45}Cu_{40}Ni_{7.5}Zr_5Sn_{2.5}$ and $Cu_{47.5}Zr_{47.5}Al_5$ Bulk Metallic Glasses", *Appl. Phys. Lett.* **89**, 071908 (2006).
331. K.B. Kim, J. Das, X.D. Wang, X. Zhang, J. Eckert, S. Yi, "Effect of Sn on Microstructure and Mechanical Properties of (Ti-Cu)-Based Bulk Metallic Glasses", *Phil. Mag. Lett.* **86**, 479 (2006).
332. A. Concustell, J. Sort, T.G. Woodcock, A. Gimazov, S. Suriñach, A. Gebert, J. Eckert, A.P. Zhilyaev, M.D. Baró, "Enhanced Mircohardness in Nanocrystalline $Ti_{60}Cu_{14}Ni_{12}Sn_4Ta_{10}$ Processed by High Pressure Torsion", *Intermetallics* **14**, 871 (2006).
333. J. Eckert, J. Das, K.B. Kim, F. Baier, M.B. Tang, W.H. Wang, Z.F. Zhang, "High Strength Ductile Cu-Base Metallic Glass", *Intermetallics* **14**, 876 (2006).
334. K.B. Kim, S. Yi, I.S. Hwang, J. Eckert, "Effect of Cooling Rate on Microstructure and Glass-Forming Ability of a $(Ti_{33}Zr_{33}Hf_{33})_{70}(Ni_{50}Cu_{50})_{20}Al_{10}$ Alloy", *Intermetallics* **14**, 972 (2006).
335. M. Kusy, U. Kühn, A. Concustell, A. Gebert, J. Das, J. Eckert, L. Schultz, M.D. Baró, "Fracture Surface Morphology of Compressed Bulk Metallic Glass-Matrix-Composites and Bulk Metallic Glass", *Intermetallics* **14**, 982 (2006).
336. S. Venkataraman, J. Eckert, L. Schultz, D.J. Sordelet, "Effect of Preannealing on Glass Transition and Crystallization of Gas Atomized $Cu_{47}Ti_{33}Zr_{11}Ni_8Si_1$ Metallic Glass Powders", *Intermetallics* **14**, 1085 (2006).
337. S. Roth, M. Stoica, J. Degmová, U. Gaitzsch, J. Eckert, L. Schultz, "Fe-Based Bulk Amorphous Soft Magnetic Materials", *J. Magn. Magn. Mater.* **304**, 192 (2006).

338. B. Lorenz, O. Perner, J. Eckert, C.W. Chu, "Superconducting Properties of Nanocrystalline MgB_2", *Supercond. Sci. Technol.* **19**, 912 (2006).
339. M. Stoica, J. Eckert, S. Roth, L. Schultz, A.R. Yavari, "Casting and Characterization of Fe-(Cr, Mo, Ga)-(P, C, B) Soft Magnetic Bulk Metallic Glasses", *J. Optoelectronics and Advanced Materials* **8**, 1685 (2006).
340. F.F. Wu, Z.F. Zhang, A. Peker, S.X. Mao, J. Das, J. Eckert, "Strength Asymmetry of Ducticle Dendrites Reinforced Zr- and Ti-based Composites", *J. Mater. Res.* **21**, 2331 (2006).
341. Z.F. Zhang, H. Zhang, B.L. Shen, A. Inoue, J. Eckert, "Shear Fracture and Fragmentation Mechanisms of Bulk Metallic Glasses", *Phil. Mag. Lett.* **86**, 643 (2006).
342. J. Das, K.B. Kim, W. Xu, B.C. Wei, Z.F. Zhang, W.H. Wang, S. Yi, J. Eckert, "Ductile Metallic Glasses in Supercooled Martensitic Alloys", *Mater. Trans.* **47**, 2606 (2006).
343. U. Kühn, K. Eymann, N. Mattern, J. Eckert, A. Gebert, B. Bartusch, L. Schultz, "Limited Quasicrystal Formation in Zr-Ti-Cu-Ni-Al Bulk Metallic Glasses", *Acta Mater.* **54**, 4685 (2006).
344. J. Eckert, C. Duhamel, J. Das, S. Scudino, Z.F. Zhang, K.B. Kim, "How to Improve the Ductility of Nanostructured Materials", *J. Korean Powder Metallurgy Institute* **13**, 340 (2006).
345. S. Dasgupta, J. Das, J. Eckert, I. Manna, "Influence of Environment and Grain Size on Magnetic Properties of Nanocrystalline Mn-Zn Ferrite", *J. Magn. Magn. Mater.* **306**, 9 (2006).
346. S. Dasgupta, K.B. Kim, J. Ellrich, I. Manna, J. Eckert, "Mechano-Chemical Synthesis and Characterization of Microstructure and Magnetic Properties of Nanocrystalline $Mn_{1-x}Zn_xFe_2O_4$", *J. Alloys & Compounds* **424**, 13 (2006).
347. N. Van Steenberge, J. Das, A. Concustell, J. Sort, S. Suriñach, J. Eckert, M.D. Baró, "Influence of Annealing on the Microstructure and Hardness of $Ti_{67.9}Fe_{28.36}Sn_{3.85}$ Nanocomposite Rods", *Scripta Mater.* **55**, 1087 (2006).
348. Z.F. Zhang, F.F. Wu, W. Gao, J. Tan, Z.G. Wang, M. Stoica, J. Das, J. Eckert, B.L. Shen, A. Inoue, "Wavy Cleavage Fracture of Bulk Metallic Glass", *Appl. Phys. Lett.* **89**, 251917 (2006).
349. J. Das, J. Eckert, R. Theissmann, "Structural Short-Range Order of the β-Ti Phase in Bulk Ti-Fe-(Sn) Nanoeutectic Alloys", *Appl. Phys. Lett.* **89**, 261917 (2006).
350. W.Y. Zhang, C.H. Chiu, L.C. Zhang, K. Biswas, H. Ehrenberg, W.C. Chang, J. Eckert, "Complete Suppression of Metastable Phase and Significant Enhancement of Magnetic Properties of B-Rich PrFeB Nanocomposites Prepared by Devitrifying Amorphous Ribbons", *J. Magn. Magn. Mater.* **308**, 24 (2007).
351. A. Concustell, N. Mattern, H. Wendrock, U. Kühn, A. Gebert, J. Eckert, A.L. Greer, J. Sort, M.D. Baró, "Mechanical Properties of a Two-Phase Amorphous Ni-Nb-Y Alloy Studied by Nanoindentation", *Scripta Mater.* **56**, 85 (2007).
352. L.C. Zhang, K.B. Kim, P. Yu, W.Y. Zhang, U. Kunz, J. Eckert, "Amorphization in mechanically Alloyed (Ti, Zr, Nb)-(Cu, Ni)-Al Equiatomic Alloys", *J. Alloys & Compounds* **428**, 157 (2007).
353. P. Yu, L.C. Zhang, W.Y. Zhang, J. Das, K.B. Kim, J. Eckert, "Interfacial Reaction During the Fabrication of $Ni_{60}Nb_{40}$ Metallic Glass Particles-Reinforced Al-Based MMCs", *Mater. Sci. Eng. A* **444**, 206 (2007).
354. S. Venkataraman, B. Bartusch, C. Mickel, K.B. Kim, J. Das, S. Scudino, M. Stoica, D.J. Sordelet, J. Eckert, "Metallic Glass Formation in the $Cu_{47}Ti_{33}Zr_{11}Ni_8Si_1$ Alloy", *Mater. Sci. Eng. A* **444**, 257 (2007).
355. M. Li, J. Eckert, L. Kecskes, J.J. Lewandowski, "Introduction: Mechanical Properties of Metallic Glasses and Applications", *J. Mater. Res.* **22**, 255 (2007).
356. B.C. Wei, L.C. Zhang, T.H. Zhang, D.M. Xing, J. Das, J. Eckert, "Strain Rate Dependence of Plastic Flow in Ce-Based Bulk Metallic Glass during Nanoindentation", *J. Mater. Res.* **22**, 258 (2007).
357. J. Eckert, J. Das, S. Pauly, C. Duhamel, "Mechanical Properties of Bulk Metallic Glasses and Composites", *J. Mater. Res.* **22**, 285 (2007).
358. J. Das, S. Pauly, C. Duhamel, B.C. Wei, J. Eckert, "Microstructure and Mechanical Properties of Slowly Cooled $Cu_{47.5}Zr_{47.5}Al_5$", *J. Mater. Res.* **22**, 326 (2007).
359. S. Venkataraman, H. Hermann, C. Mickel, L. Schultz, D.J. Sordelet, J. Eckert, "Calorimetric Study of the Crystallization Kinetics of $Cu_{47}Ti_{33}Zr_{11}Ni_8Si_1$ Metallic Glass", *Phys. Rev. B* **75**, 104206 (2007).

360. J. Eckert, J. Das, G. He, M. Calin, K.B. Kim, "Ti-Base Bulk Nanostructure-Dendrite Composites: Microstructure and Deformation", *Mater. Sci. Eng. A* **449-451**, 24 (2007).
361. O. Perroud, E. García-Matres, G. Kumar, J. Eckert, A. Wiedenmann, "Small Angle Neutron Scattering Studies of Hard Magnetic $Nd_{60}Fe_{30-x}Co_xAl_{10}$ Bulk Amorphous Alloys", *Mater. Sci. Eng. A* **449-451**, 448 (2007).
362. S. Scudino, J. Eckert, H. Breitzke, K. Lüders, L. Schultz, "Influence of Oxygen on the Devitrification of Zr-Ti-Nb-Cu-Ni-Al Metallic Glasses", *Mater. Sci. Eng. A* **449-451**, 493 (2007).
363. J. Das, K.B. Kim, W. Xu, W. Löser, J. Eckert, "Formation of Ductile Ultrafine Eutectic Structure in Ti-Fe-Sn Alloy", *Mater. Sci. Eng. A* **449-451**, 737 (2007).
364. K.B. Kim, J. Das, W. Löser, M.H. Lee, D.H. Kim, S.K. Roy, J. Eckert, "Microstructural Comparison of $Zr_{73.5}Nb_9Cu_7Ni_1Al_{9.5}$ Nanostructure-Dendrite Composites Produced by Different Casting Techniques", *Mater. Sci. Eng. A* **449-451**, 747 (2007).
365. K.B. Kim, P.J. Warren, B. Cantor, J. Eckert, "Devitrification of Nano-Scale Icosahedral Phase in Multicomponent Alloys", *Mater. Sci. Eng. A* **449-451**, 983 (2007).
366. Z.F. Zhang, J. Eckert, "The Physical Nature of Materials Strengths", *Adv. Eng. Mater.* **9**, 143 (2007).
367. F.F. Wu, Z.F. Zhang, S.X. Mao, A. Peker, J. Eckert, "Effect of Annealing on the Mechanical Properties and Fracture Mechanisms of a $Zr_{56.2}Ti_{13.8}Nb_{5.0}Cu_{6.9}Ni_{5.6}Be_{12.5}$ Bulk-Metallic-Glass Composite", *Phys. Rev. B* **75**, 134201 (2007).
368. S. Scudino, J. Eckert, X.Y. Yang, D.J. Sordelet, L. Schultz, "Conditions for Quasicrystal Formation from Mechanically Alloyed Zr-Based Glassy Alloys", *Intermetallics* **15**, 571 (2007).
369. N. Van Steenberge, J. Sort, A. Concustell, J. Das, S. Scudino, S. Suriñach, J. Eckert, M.D. Baró, "Dynamic Softening and Indentation Size Effect in a Zr-Based Bulk Glass-Forming Alloy", *Scripta Mater.* **56**, 605 (2007).
370. J. Das, F. Ettingshausen, R. Theissmann, W. Löser, J. Eckert, "Microstructure and Mechanical Properties of Ti-Fe-(Sn) Ultrafine Eutectic Alloys", *Trans. Indian Inst. Metals* **60**, 229 (2007).
371. J. Eckert, C. Duhamel, J. Das, K.B. Kim, Z.F. Zhang, "Bulk Nanostructure – Dendrite Composites. Solidification, Microstructure and Mechanical Properties", *Trans. Indian Inst. Metals* **60**, 331 (2007).
372. L.C. Zhang, M. Calin, M. Branzei, L. Schultz, J. Eckert, "Phase Stability and Consolidation of Glassy/Nanostructured $Al_{85}Ni_9Nd_4Co_2$ Alloys", *J. Mater.Res.* **22**, 1145 (2007).
373. P. Yu, S. Venkataraman, J. Das, L.C. Zhang, W.Y. Zhang, J. Eckert, "Effect of High Pressure During the Fabrication on the Thermal and Mechanical Properties of Amorphous $Ni_{60}Nb_{40}$ Particle-Reinforced Al-Based Metal Matrix Composites", *J. Mater.Res.* **22**, 1168 (2007).
374. L.C. Zhang, M. Calin, F. Paturaud, C. Mickel, J. Eckert, "Deformation-Induced Nanoscale High-Temperature Phase Separation in Co-Fe Alloys at Room Temperature", *Appl. Phys. Lett.* **90**, 201908 (2007).
375. J. Eckert, J. Das, K.B. Kim, F. Baier, W. Löser, M. Calin, Z.F. Zhang, A. Gebert, "Deformation Behavior of a $Ti_{66}Cu_8Ni_{4.8}Sn_{7.2}Nb_{14}$ Nanostructured Composite Containing Ductile Dendrites", *J. Alloys & Compounds* **434-435**, 13 (2007).
376. J. Das, K.B. Kim, F. Baier, W. Löser, A. Gebert, J. Eckert, "Bulk Ultra-Fine Eutectic Structure in Ti-Fe-Base Alloys", *J. Alloys & Compounds* **434-435**, 28 (2007).
377. K.B. Kim, J. Das, F. Baier, J. Eckert, "Microstructural Investigation of a Deformed $Ti_{66.1}Cu_8Ni_{4.8}Sn_{7.2}Nb_{13.9}$ Nanostructure-Dendrite Composite", *J. Alloys & Compounds* **434-435**, 106 (2007).
378. M. Stoica, J. Eckert, S. Roth, A.R. Yavari, L. Schultz, "$Fe_{65.5}Cr_4Mo_4Ga_4P_{12}C_5B_{5.5}$ BMGs: Sample Preparation, Thermal Stability and Mechanical Properties", *J. Alloys & Compounds* **434-435**, 171 (2007).
379. S. Venkataraman, J. Eckert, L. Schultz, D.J. Sordelet, "Studies on the Crystallization Kinetics of Cu-Reinforced Partially Crystalline $Cu_{47}Ti_{33}Zr_{11}Ni_8Si_1$ Metallic Glass Composite", *J. Alloys & Compounds* **434-435**, 203 (2007).
380. S. Scudino, J. Eckert, H. Breitzke, K. Lüders, L. Schultz, "Effect of Zr on the Crystallization Behavior of Multi-Component Zr-Based Metallic Glasses", *J. Alloys & Compounds* **434-435**, 217 (2007).

381. K.B. Kim, W. Xu, M. Tomut, M. Stoica, M. Calin, S. Yi, W.H. Lee, J. Eckert, "Formation of Icosahedral Phase in an $Al_{93}Fe_3Cr_2Ti_2$ Bulk Alloy", *J. Alloys & Compounds* **436**, L1 (2007).
382. K. Werniewicz, U. Kühn, N. Mattern, B. Bartusch, J. Eckert, J. Das, L. Schultz, T. Kulik, "New Fe-Cr-Mo-Ga-C Composites with High Compressive Strength and Large Plasticity", *Acta Mater.* **55**, 3513 (2007).
383. U. Kühn, N. Mattern, T. Gemming, U. Siegel, K. Werniewicz, J. Eckert, "Superior Mechanical Properties of FeCrMoVC", *Appl. Phys. Lett.* **90**, 261901 (2007).
384. J. Eckert, J. Das, S. Pauly, C. Duhamel, "Processing Routes, Microstructure and Mechanical Properties of Metallic Glasses and their Composites", *Adv. Eng. Mater.* **9**, 443 (2007).
385. S. Pauly, J. Das, C. Duhamel, J. Eckert, "Martensite Formation in a Ductile $Cu_{47.5}Zr_{47.5}Al_5$ Bulk Metallic Glasses Composite", *Adv. Eng. Mater.* **9**, 487 (2007).
386. N. Mattern, T. Gemming, G. Goerigk, J. Eckert, "Phase Separation in Amorphous Ni-Nb-Y Alloys", *Scripta Mater.* **57**, 29 (2007).
387. L.C. Zhang, J. Das, H.B. Lu, C. Duhamel, M. Calin, J. Eckert, "High Strength Ti-Fe-Sn Ultrafine Composites with Large Plasticity", *Scripta Mater.* **57**, 101 (2007).
388. N. Mattern, U. Kühn, A. Concustell, A. Schöps, M.D. Baró, J. Eckert, "Phase Separation and Crystallization in Cu-Zr Metallic Glasses", *Mater. Trans.* **48**, 1639 (2007).
389. K.S. Lee, H.-J. Jun, D.W. Kim, J. Eckert, Y.W. Chang, "Structural Relaxation and Crystallization of a $Zr_{44}Ti_{11}Cu_{9.8}Ni_{10.2}Be_{25}$ Bulk Metallic Glass", *Mater. Trans.* **48**, 1722 (2007).
390. J. Eckert, J. Das, S. Pauly, C. Duhamel, K.B. Kim, S. Yi, W.H. Wang, "Impact of Microstructural Inhomogeneities on the Ductility of Bulk Metallic Glasses", *Mater. Trans.* **48**, 1806 (2007).
391. K.S. Lee, J. Eckert, H.-J. Jun, Y.W. Chang, "Influence of Annealing on Structural Relaxation, Crystallization, and Deformation Behavior of a $Zr_{41.2}Ti_{13.8}Cu_{12.5}Ni_{10}Be_{22.5}$ Bulk Metallic Glass", *J. Mater. Res.* **22**, 1849 (2007).
392. L.C. Zhang, H.B. Lu, C. Mickel, J. Eckert, "Ductile Ultrafine-Grained Ti-Based Alloys with High Yield Strength", *Appl. Phys. Lett.* **91**, 051906 (2007).
393. A. Concustell, J. Sort, S. Suriñach, A. Gebert, J. Eckert, A.P. Zhilyaev, M.D. Baró, "Severe Plastic Deformation of a Ti-Based Nanocomposite Alloy Studied by Nanoindentation", *Intermetallics* **15**, 1038 (2007).
394. K.S. Lee, J. Eckert, Y.W. Chang, "Load Relaxation Behavior of a $Zr_{41.2}Ti_{13.8}Cu_{12.5}Ni_{10}Be_{22.5}$ Bulk Metallic Glass", *J. Non-Cryst. Solids* **353**, 2515 (2007).
395. X.F. Zhang, K.B. Kim, J. Das, S. Yi, J. Eckert, "Influence of Additional Elements on the Development of Nanoscale Heterogeneities in (TiCu)-Based Bulk Metallic Glasses with Enhanced Ductility", *J. Mater. Res.* **22**, 2223 (2007).
396. A.R. Yavari, J.J. Lewandowski, J. Eckert, "Mechanical Properties of Bulk Metallic Glasses", *Mater. Res. Bull.* **32**, 635 (2007).
397. A. Gebert, N. Mattern, U. Kühn, J. Eckert, L. Schultz, "Electrode Characteristics of Two-Phase Glass-Forming Ni-Nb-Y Alloys", *Intermetallics* **15**, 1183 (2007).
398. J. Das, M. Boström, N. Mattern, Å. Kvick, A.R: Yavari, A.L. Greer, J. Eckert, "Plasticity in Bulk Bulk Metallic Glasses Investigated via the Strain Distribution", *Phys. Rev. B* **76**, 092203 (2007).
399. B. Lorenz, O. Perner, J. Eckert, C.W. Chu, "Superconducting Gaps of Nanocrystalline MgB_2", *Physica C* **460-462**, 553 (2007).
400. L.C. Zhang, M. Calin, F. Paturaud, J. Eckert, "Deformation Behavior and Plastic Instability of Off-Stoichiometric Co-Fe Alloys", *Scripta Mater.* **57**, 731 (2007).
401. N. Mattern, U. Kühn, J. Eckert, "Structural Behavior of Amorphous and Liquid Metallic Alloys at Elevated Temperatures", *J. Non-Cryst. Solids* **353**, 3327 (2007).
402. J. Eckert, J. Das, W. Löser, S.K. Roy, A. Gebert, "Strengthening of Multicomponent Glass-Forming Alloys by Microstructure Design", *J. Non-Cryst. Solids* **353**, 3742 (2007).
403. A.S. Bakai, S.A. Bakai, J. Eckert, I.M. Neklyudov, V.I. Savchenko, "Mixed Viscous Flow and Softening of Bulk Metallic Glasses", *J. Non-Cryst. Solids* **353**, 3754 (2007).
404. A.S. Bakai, S.A. Bakai, I.M. Neklyudov, P.I. Stoev, J. Eckert, M.-P. Macht, "On the Kaiser Effect in Mixed Bulk Metallic Glasses", *J. Non-Cryst. Solids* **353**, 3769 (2007).
405. N. Mattern, W. Löser, J. Eckert, "Influence of Cooling Rate on the Crystallization and Microstructure of the Monotectic $Ni_{54}Nb_{23}Y_{23}$ Alloy", *Phil. Mag. Lett.* **87**, 839 (2007).

406. M. Calin, L.C. Zhang, J. Eckert, "Tailoring of Microstructure and Mechanical Properties of a Ti-Based Bulk Metallic Glass-Forming Alloy", *Scripta Mater.* **57**, 1101 (2007).
407. Z.F. Zhang, F.F. Wu, G. He, J. Eckert, "Mechanical Properties, Damage and Fracture Mechanisms of Bulk Metallic Glass Materials", *J. Mater. Sci. Technol.* **23**, 747 (2007).
408. K.B. Kim, J. Das, M.H. Lee, S. Yi, E. Fleury, Z.F. Zhang, W.H. Wang, J. Eckert, "Propagation of Shear Bands in a $Cu_{47.5}Zr_{47.5}Al_5$ Bulk Metallic Glass", *J. Mater. Res.* **23**, 6 (2008).
409. W.Y. Zhang, B. Yang, M. Stoica, J. Shen, B.G. Shen, J. Eckert, "Magnetic Hardening Mechanism of $PrCo_5$-Based Ribbons with C Addition Prepared by Melt Spinning", *Int. J. Mater. Res. (formerly Z. Metallkde.)* **99**, 67 (2008).
410. K.B. Kim, X.F. Zhang, S. Yi, M.H. Lee, J. Das, J. Eckert, "Effect of Local Chemistry, Structure and Length Scale of Heterogeneities on the Mechanical Properties of a $Ti_{45}Cu_{40}Ni_{7.5}Zr_5Sn_{2.5}$ Bulk Metallic Glass", *Phil. Mag. Lett.* **88**, 75 (2008).
411. J. Sort, N. Van Steenberge, A. Gimazov, A. Concustell, S. Suriñach, A. Gebert, J. Eckert, M.D. Baró, "Study of the Mechanical Behaviour of a Zr-Based Bulk Metallic Glass Using Micro- and Nano-Indentation", *The Open Materials Science Journal* **2**, 1 (2008)
412. N. Mattern, A. Schöps, U. Kühn, J. Acker, O. Khvostikova, J. Eckert, "Structural Behavior of Cu_xZr_{100-x} Metallic Glass (x = 35 – 70)", *J. Non-Cryst. Solids* **354**, 1054 (2008).
413. S. Scudino, S. Sperling, M. Sakaliyska, C. Thomas, M. Feuerbacher, K.B. Kim, H. Ehrenberg, J. Eckert, "Phase Transformations in Mechanically Milled and Annealed Single-Phase β-Al_3Mg_2", *Acta Mater.* **56**, 1136 (2008).
414. J.M. Park, S.W. Sohn, D.H. Kim, K.B. Kim, W.T. Kim, J. Eckert, "Propagation of Shear Bands and Accomodation of Shear Strain in the $Fe_{54}Nb_4Al_{40}$ Ultrafine Eutectic-Dendrite Composite", *Appl. Phys. Lett.* **92**, 091910 (2008).
415. W.Y. Zhang, M. Stoica, J. Eckert, P. Yu, J.Z. Jiang, "Preparation of Bulk $Nd_2Fe_{14}B/Fe_3B$ Nanocomposite Magnets with High Rare Earth Content", *Intermetallics* **16**, 341 (2008).
416. W.Y. Zhang, M. Stoica, H.W. Chang, M. Calin, R. Schierholz, W.C. Zhang, J. Eckert, "The Role of Nonmagnetic Phases in Improving the Magnetic Properties of Devitrified $Pr_2Fe_{14}B$-Based Nanocomposites", *Mater. Sci. Eng. B* **149**, 73 (2008).
417. K.T. Kim, J. Eckert, S.B. Menzel, T. Gemming, S.H. Hong, "Grain Refinement Assisted Strengthening of Carbon Nanotube Reinforced Copper Matrix Nanocomposites", *Appl. Phys. Lett.* **92**, 121901 (2008).
418. J. Das, F. Ettingshausen, J. Eckert, "Ti-Base Nanoeutectic-Hexagonal Structured ($D0_{19}$) Dendrite Composite", *Scripta Mater.* **58**, 631 (2008).
419. M.H. Lee, D.H. Bae, D.H. Kim, W.T. Kim, D.J. Sordelet, K.B. Kim, J. Eckert, "Nanocrystallization at Shear Bands in Bulk Metallic Glass Matrix Composites", *Scripta Mater.* **58**, 651 (2008).
420. K.B. Kim, J. Das, M.H. Lee, D.H. Kim, W.H. Lee, J. Eckert, "Formation of Nano-Scale ω-Phase in Arc-Melted Micron-Scale Dendrite Reinforced $Zr_{73.5}Nb_9Cu_7Ni_1Al_{9.5}$ Ultrafine Composite during Heat Treatment", *Intermetallics* **16**, 538 (2008).
421. I. Mazilu, A. Teresiak, J. Werner, G. Behr, C.D. Cao, W. Löser, J. Eckert, L. Schultz, "Phase Diagram Studies on Er_2PdSi_3 and $ErPd_2Si_2$ Intermetallic Compounds", *J. Alloys & Compounds* **454**, 221 (2008).
422. D. Klemm, M. Stangl, A. Peeva, V. Hoffmann, K. Wetzig, J. Eckert, "Analysis of Interface Impurities in Electroplated Cu Layers by Using GD-OES and TOF-SIMS", *Surf. Interface Anal.* **40**, 418 (2008).
423. J.M. Park, K.B. Kim, W.T. Kim, M.H. Lee, J. Eckert, D.H. Kim, "High Strength Ultrafine Eutectic Fe-Nb-Al Composites with Enhanced Plasticity", *Intermetallics* **16**, 642 (2008).
424. W.Y. Zhang, M. Stoica, J. Eckert, H.W. Chang, W.C. Zhang, H. Ehrenberg, "The Role of Combined Addition of Ti and B in Magnetic Hardening of Devitrified $Pr_2Fe_{14}B$ /(Fe_3B, α-Fe) Nanocomposite Magnets", *Phys. Stat. Sol. (a)* **205**, 1207 (2008).
425. M.H. Lee, K.B. Kim, J.H. Han, J. Eckert, D.J. Sordelet, "High Strength Porous Ti-6Al-4V Foams Synthesized by Solid State Powder Processing", *J. Phys. D: Appl. Phys.* **41**, 105404 (2008).
426. S. Scudino, S. Venkataraman, M. Sakaliyska, J. Eckert, "Crystallization Behavior and Consolidation of Ball Milled $Zr_{60}Ti_5Ag_5Cu_{12.5}Ni_{10}Al_{7.5}$ Glassy Powders", *J. Alloys & Compounds* **456**, 159 (2008).

427. K.S. Lee, J. Eckert, Y.W. Chang, "EXAFS and Dilatometric Analysis of Structural Rearrangement after Annealing in a Zr-based Bulk Metallic Glass", *Rev. Adv. Mater. Sci.* **18**, 14 (2008).
428. M. Stoica, K. Hajlaoui, J. Das, J. Eckert, A.R. Yavari, "FeNbB Bulk Metallic Glass with High Boron Content", *Rev. Adv. Mater. Sci.* **18**, 61 (2008).
429. J. Eckert, M. Calin, P. Yu, L.C. Zhang, S. Scudino, C. Duhamel, "Al-Based Alloys Containing Amorphous and Nanostructured Phases", *Rev. Adv. Mater. Sci.* **18**, 169 (2008).
430. S. Scudino, D.J. Sordelet, J. Eckert, "Devitrification of Mechanically Alloyed Zr-Ti-Nb-Cu-Ni-Al Glassy Powders Studied by Time-Resolved X-Ray Diffraction", *Rev. Adv. Mater. Sci.* **18**, 221 (2008).
431. L.C. Zhang, M. Calin, M. Adam, J. Eckert, "Crystallization Kinetics and Viscosity of $Cu_{47}Ti_{33}Zr_{11}Ni_8X_1$ (X = Si, Sn) Metallic Glasses", *Rev. Adv. Mater. Sci.* **18**, 429 (2008).
432. C. Duhamel, J. Das, S. Pauly, K.S. Lee, J. Eckert, "Deformation Behavior and Fractographic Features of Ductile $Cu_{47}Zr_{47}Al_6$ Bulk Metallic Glass", *Rev. Adv. Mater. Sci.* **18**, 527 (2008).
433. G. Mulas, C. Pistidda, G. Cocco, S. Scudino, J. Eckert, "Mechanically-Induced Hydrogen Absorption in Zr-Based Quasicrystals", *Rev. Adv. Mater. Sci.* **18**, 644 (2008).
434. M. Stoica, J. Das, J. Bednarčik, H. Franz, N. Mattern, W.H. Wang, J. Eckert, "Strain Distribution in $Zr_{64.13}Cu_{15.75}Ni_{10.12}Al_{10}$ Bulk Metallic Glass Investigated by in-situ Tensile Tests under Synchrotron Radiation", *J. Appl. Phys.* **104**, 013522 (2008).
435. S. Scudino, K.B. Surreddi, S. Sager, M. Sakaliyska, J.S. Kim, W. Löser, J. Eckert, "Production and Mechanical Properties of Metallic Glass-Reinforced Al-Based Metal Matrix Composites", *J. Mater. Sci.* **43**, 4518 (2008).
436. J.M. Park, T.E. Kim, S.W. Sohn, D.H. Kim, K.B. Kim, W.T. Kim, J. Eckert, "High Strength Ni-Zr Binary Ultrafine Eutectic-Dendrite Composite with Large Plastic Deformability", *Appl. Phys. Lett.* **93**, 031913 (2008).
437. S. Scudino, S. Venkataraman, J. Eckert, "Thermal Stability, Microstructure and Crystallization Kinetics of Melt-Spun ZrTiCuNi Metallic Glass", *J. Alloys & Compounds* **460**, 263 (2008).
438. J.M. Park, D.H. Kim, K.B. Kim, M.H. Lee, W.T. Kim, J. Eckert, "Influence of Heterogeneities with Different Length Scale on the Plasticity of Fe-Base Ultrafine Eutectic Alloys", *J. Mater. Res.* **23**, 2003 (2008).
439. H.-J. Jun, K.S. Lee, J. Eckert, Y.W. Chang, "High Temperature Deformation Behavior and Formability of a Cu-Zr-Al-Ni Bulk Metallic Glass", *Metall. Mater. Trans. A* **39**, 1831 (2008).
440. S. Pauly, J. Das, C. Duhamel, J. Eckert, "Effect of Ti on Microstructure and Mechanical Properties of $Cu_{50}Zr_{50-x}Ti_x$ ($2.5 \leq x \leq 7.5$) Glass Matrix Composites", *Metall. Mater. Trans. A* **39**, 1868 (2008).
441. F.F. Wu, Z.F. Zhang, B.L. Shen, S.X. Mao, J. Eckert, "Size Effect on Shear Fracture and Fragmentation of a $Fe_{57.6}Co_{14.4}B_{19.2}Si_{4.8}Nb_4$ Bulk Metallic Glass", *Adv. Eng. Mater.* **10**, 727 (2008).
442. N. Van Steenberge, A. Concustell, J. Sort, J. Das, N. Mattern, A. Gebert, S. Suriñach, J. Eckert, M.D. Baró, "Microstructural Inhomogeneities Introduced in a Zr-Based Bulk Metallic Glass Upon Low Temperature Annealing", *Mater. Sci. Eng. A* **491**, 124 (2008).
443. J. Das, K.B. Kim, Z.F. Zhang, G. He, C. Müller, J. Eckert, "Deformation and Fracture of Ti-Base Nanostructured Composite", *Int. J. Mater. Res. (formerly Z. Metallkde.)* **99**, 985 (2008).
444. S. Venkataraman, H. Hermann, D.J. Sordelet, J. Eckert, "Influence of Sub-T_g Annealing on the Crystallization Kinetics of $Cu_{47}Ti_{33}Zr_{11}Ni_8Si_1$ Metallic Glass", *J. Appl. Phys.* **104**, 066107 (2008).
445. J.H. Han, K.B. Kim, S. Yi, J.M. Park, S.W. Sohn, T.E. Kim, D.H. Kim, J. Das, J. Eckert, "Formation of a Bimodal Eutectic Structure in Ti-Fe-Sn Alloys with Enhanced Plasticity", *Appl. Phys. Lett.* **93**, 141901 (2008).
446. J. Eckert, J. Das, W. Xu, R. Theissmann, "Nanoscale Mechanism and Intrinsic Structure Related Deformation of Ti Alloys", *Mater. Sci. Eng. A* **493**, 71 (2008).
447. M. Spindler, S.B. Menzel, C. Eggs, J. Thomas, T. Gemming, J. Eckert, "TEM Investigation of Ti and Ti/Al Bilayer as Alternative Diffusion Barriers for Cu Metallization for SAW Device Applications", *Microelectronic Engineering* **85**, 2055 (2008).
448. K.T. Kim, S.I. Cha, T. Gemming, J. Eckert, S.H. Hong, "The Role of Interfacial Oxygen Atoms on Enhanced Mechanical Properties of Carbon-Nanotube-Reinforced Metal Matrix Nanocomposites", *Small* **4**, 1936 (2008).

449. J.M. Park, D.H. Kim, K.B. Kim, E. Fleury, M.H. Lee, W.T. Kim, J. Eckert, "Enhancement of Plasticity in Ti-Rich Ti-Zr-Be-Cu-Ni-Ta Bulk Glassy Alloy via Introducing the Structural Inhomogeneity", *J. Mater. Res.* **23**, 2984 (2008).
450. J.H. Han, K.B. Kim, S. Yi, J.M. Park, D.H. Kim, S. Pauly, J. Eckert, "Influence of a Bimodal Eutectic Structure on the Plasticity of a $(Ti_{70.5}Fe_{29.5})_{91}Sn_9$ Ultrafine Composite", *Appl. Phys. Lett.* **93**, 201906 (2008).
451. I.V. Stasi, G. Nedelcu, C. Gheorghieş, N. Mattern, J. Eckert, "Influence of Yttrium and Gadolinium Additions on Thermal and Structural Behavior of Cu-Zr-Bulk Metallic Glass", *J. Optoelectronic & Adv. Mater.* **10**, 2963 (2008).
452. S. Scudino, M. Sakaliyska, M. Stoica, K.B. Surreddi, F. Ali, G. Vaughan, A.R. Yavari, J. Eckert, "In-Situ X-Ray Diffraction of Mechanically Milled β-Al_3Mg_2 Powders", *Phys. Stat. Sol. Rapid Research Letters* **2**, 272 (2008).
453. J. Bednarčik, S. Venkataraman, O. Khvostikova, H. Franz, D.J. Sordelet, J. Eckert, "Microstructural Changes Induced by Thermal Treatment in $Cu_{47}Ti_{33}Zr_{11}Ni_8Si_1$ Metallic Glass", *Mater. Sci. Eng. A* **498**, 335 (2008).
454. J.T. Fan, Z.F. Zhang, S.X. Mao, J. Eckert, "Propagation and Deflection of Shear Bands in Metallic Glass under Circumferential Constraint", *Adv. Eng. Mater.* **10**, 1117 (2008).
455. I.V. Stasi, G. Nedelcu, C. Gheorghieş, N. Mattern, J. Eckert, "Influence of Yttrium Additions on Structural Behavior of $Cu_{50}Zr_{50-x}Y_x$ Metallic Glasses (x = 5, 10, 15, 20, 25)", *J. Optoelectronic & Adv. Mater.* **10**, 3465 (2008).
456. M.H. Lee, J.K. Lee, K.T. Kim, J. Thomas, J. Das, U. Kühn, J. Eckert, "Deformation-Induced Microstructural Heterogeneity in Monolithic $Zr_{44}Ti_{11}Cu_{9.8}Ni_{10.2}Be_{25}$ Bulk Metallic Glass", *Phys. Stat. Sol. Rapid Research Letters* **3**, 46 (2009).
457. K.S. Lee, H.-J. Jun, S. Pauly, B. Bartusch, Y.W. Chang, J. Eckert, "Thermomechanical Characterization of $Cu_{47.5}Zr_{47.5}Al_5$ Bulk Metallic Glass within the Homogeneous Flow Regime", *Intermetallics* **17**, 65 (2009).
458. N. Mattern, G. Goerigk, U. Vainio, M.K. Miller, T. Gemming, J. Eckert, "Spinodal Decomposition of Ni-Nb-Y Metallic Glasses", *Acta Mater.* **57**, 903 (2009).
459. J.T. Fan, Z.F. Zhang, S.X. Mao, B.L. Shen, J. Eckert, "Serrated Flow Behavior Induced by Blunt Mechanism of Shear Crack Propagation in Metallic Glass", *J. Mater. Res.* **24**, 436 (2009).
460. V.C. Srivastava, K.B. Surreddi, V. Uhlenwinkel, A. Schulz, J. Eckert, H.-W. Zoch, "Formation of Nanocrystalline Matrix Composite during Spray Forming of $Al_{83}La_5Y_5Ni_5Co_2$", *Metall. Mater. Trans. A* **40**, 450 (2009).
461. S. Pauly, J. Das, J. Bednarčik, N. Mattern, K.B. Kim, D.H. Kim, J. Eckert, "Deformation-Induced Martensitic Transformation in Cu-Zr-(Al,Ti) Bulk Metallic Glass Composites", *Scripta. Mater.* **60**, 431 (2009).
462. F.F. Wu, Z.F. Zhang, S.X. Mao, J. Eckert, "Effect of Sample Size on Ductility of Metallic Glass", *Phil. Mag. Lett.* **89**, 178 (2009).
463. S. Scudino, G. Liu, K.G. Prashanth, B. Bartusch, K.B. Surreddi, B.S. Murty, J. Eckert, "Mechanical Properties of Al-Based Metal Matrix Composites Reinforced with Zr-Based Glassy Particles Produced by Powder Metallurgy", *Acta Mater.* **57**, 2029 (2009).
464. R. Li, S. Kumar, S. Ram, M. Stoica, S. Roth, J. Eckert, "Crystallization and Magnetic Properties of $[(Fe,Co)_{0.75}Si_{0.05}B_{0.20}]_{94}Nb_6$ Metallic Glasses ", *J. Phys. D: Appl. Phys.* **42**, 085006 (2009).
465. K.S. Lee, J.-H. Lee, J. Eckert, "On the Structural Relaxation of Bulk Metallic Glass under Warm Deformation", *Intermetallics* **17**, 222 (2009).
466. J.X. Zhao, R.T. Qu, F.F. Wu, Z.F. Zhang, B.L. Shen, M. Stoica, J. Eckert, "Fracture Mechanism of Some Brittle Metallic Glasses", *J. Appl. Phys.* **105**, 103519 (2009).
467. K.G. Prashanth, S. Scudino, B.S. Murty, J. Eckert, "Crystallization Kinetics and Consolidation of Mechanically Alloyed $Al_{70}Y_{16}Ni_{10}Co_4$ Glassy Powders", *J. Alloys & Compounds* **477**, 171 (2009).
468. W. Xu, X. Wu, M. Calin, M. Stoica, J. Eckert, K. Xia, "Formation of an Ultrafine-Grained Structure during Equal-Channel Angular Pressing of a β-Titanium Alloy with Low Phase Stability", *Scripta Mater.* **60**, 1012 (2009).
469. S. Pauly, J. Das, N. Mattern, D.H. Kim, J. Eckert, "Phase Formation and Thermal Stability in Cu-Zr-Ti(Al) Metallic Glasses", *Intermetallics* **17**, 453 (2009).

470. I. Kaban, P. Jóvári, M. Stoica J. Eckert, W. Hoyer, B. Beuneu, "Topological and Chemical Ordering in $Co_{43}Fe_{20}Ta_{5.5}B_{31.5}$ Metallic Glass with Multiple Superior Properties", *Phys. Phys. B.* **79**, 212201 (2009).
471. S. Scudino, P. Donnadieu, K.B. Surreddi, K. Nikolowski, M. Stoica, J. Eckert, "Microstructure and Mechanical Properties of Laves Phase-Reinforced Fe-Zr-Cr Alloys", *Intermetallics* **17**, 532 (2009).
472. K.G. Prashanth, S. Scudino, K.B. Surreddi, M. Sakaliyska, B.S. Murty, J. Eckert, "Crystallization Kinetics of $Zr_{65}Ag_5Cu_{12.5}Ni_{10}Al_{7.5}$ Glassy Powders Produced by Ball Milling of Pre-Alloyed Ingots", *Mater. Sci. Eng. A* **513-514**, 279 (2009).
473. N. Ismael, A.A. El-Meligi, M. Uhlemann, A. Gebert, J. Eckert, L. Schultz, "Hydrogenation of Zr-Cu-Al-Ni-Pd Metallic Glasses by Electrochemical Means", *J. Alloys & Compounds* **480**, 321 (2009).
474. A. Teresiak, M. Uhlemann, A. Gebert, J. Thomas, J. Eckert, L. Schultz, "Formation of Nanostructured $LaMg_2Ni$ by Rapid Quenching and Intensive Milling and its Hydrogen Reactivity", *J. Alloys & Compounds* **481**, 144 (2009).
475. J.M. Park, N. Mattern, U. Kühn, J. Eckert, K.B. Kim, W.T. Kim, K. Chattopadhyay, D.H. Kim, "High Strength Bulk Al-Base Bimodal Ultrafine Eutectic Composite with Enhanced Plasticity", *J. Mater. Res.* **24**, 2605 (2009).
476. N. Mattern, J. Bednarčik, S. Pauly, G. Wang, J. Das, J. Eckert, "Structural Evolution of Cu-Zr Metallic Glasses under Tension", *Acta Mater.* **57**, 4133 (2009).
477. S. Scudino, M. Sakaliyska, K.B. Surreddi, J. Eckert, "Mechanical Alloying and Milling of Al-Mg Alloys", *J. Alloys & Compounds* **483**, 2 (2009).
478. J. Das, S. Pauly, M. Boström, K. Durst, M. Göken, J. Eckert, "Designing Bulk Metallic Glass and Glass Matrix Composites in Martensitic Alloys", *J. Alloys & Compounds* **483**, 97 (2009).
479. M. Baricco, T.A. Baser, J. Das, J. Eckert, "Correlation between Poisson Ratio and Mohr-Coulomb Coefficient in Metallic Glasses", *J. Alloys & Compounds* **483**, 125 (2009).
480. T.A. Baser, J. Das, J. Eckert, M. Baricco, "Glass Formation and Mechanical Properties of $(Cu_{50}Zr_{50})_{100-x}Al_x$ (x = 0, 4, 5, 7) Bulk Metallic Glasses", *J. Alloys & Compounds* **483**, 146 (2009).
481. S. Scudino, S. Venkataraman, M. Stoica, K.B. Surreddi, S. Pauly, J. Das, J. Eckert, "Consolidation and Mechanical Properties of Ball Milled $Zr_{50}Cu_{50}$ Glassy Ribbons", *J. Alloys & Compounds* **483**, 227 (2009).
482. M. Stoica, S. Kumar, S. Roth, S. Ram, J. Eckert, G. Vaughan, A.R. Yavari, "Crystallization Kinetics and Magnetic Properties of $Fe_{66}Nb_4B_{30}$ Bulk Metallic Glass", *J. Alloys & Compounds* **483**, 632 (2009).
483. S. Scudino, G. Liu, M. Sakaliyska, K.B. Surreddi, J. Eckert, "Powder Metallurgy of Al-Based Metal Matrix Composites Reinforced with β-Al_3Mg_2 Intermetallic Particles: Analysis and Modeling of Mechanical Properties", *Acta Mater.* **57**, 4529 (2009).
484. S. Scudino, K.B. Surreddi, H.V. Nguyen, G. Liu, T. Gemming, M. Sakaliyska, J.S. Kim, J. Vierke, M. Wollgarten, J. Eckert, "High-Strength $Al_{87}Ni_8La_5$ Bulk Alloy Produced by Spark Plasma Sintering of Gas Atomized Powders", *J. Mater. Res.* **24**, 2909 (2009).
485. S. Pauly, G. Liu, G. Wang, J. Das, K.B. Kim, U. Kühn, D.H. Kim, J. Eckert, "Modeling Deformation Behavior of Cu-Zr-Al Bulk Metallic Glass Matrix Composites", *Appl. Phys. Lett.* **95**, 101906 (2009).
486. R.T. Qu, F.F. Wu, Z.F. Zhang, J. Eckert, "Direct Observations on the Evolution of Shear Bands into Cracks in Metallic Glass", *J. Mater. Res.* **24**, 3130 (2009).
487. A. Concustell, J. Sort, J. Fornell, E. Rossinyol, S. Suriñach, A. Gebert, J. Eckert, M.D. Baró, "Work Hardening Mechanisms of the $Ti_{60}Cu_{14}Ni_{12}Sn_4Nb_{10}$ Nanocomposite Alloy", *J. Mater. Res.* **24**, 3146 (2009).
488. S. Pauly, G. Liu, G. Wang, U. Kühn, N. Mattern, J. Eckert, "Microstructural Heterogeneities Governing the Deformation of $Cu_{47.5}Zr_{47.5}Al_5$ Bulk Metallic Glass Composites", *Acta. Mater.* **57**, 5445 (2009).
489. N. Mattern, P. Jóvári, I. Kaban, S. Gruner, A. Elsner, V. Kokotin, H. Franz, B. Beuneu, J. Eckert, "Short-Range Order of Cu-Zr Metallic Glasses", *J. Alloys & Compounds* **485**, 163 (2009).

490. J.M. Park, J.H. Han, K.B. Kim, N. Mattern, J. Eckert, D.H. Kim, "Favorable Microstructural Modulation and Enhancement of Mechanical Properties of Ti-Fe-Nb Ultrafine Composites", *Phil. Mag. Lett.* **89**, 623 (2009).
491. V.C. Srivastava, K.B. Surreddi, S. Scudino, M. Schowalter, V. Uhlenwinkel, A. Schulz, A. Rosenauer, H.-W. Zoch, J. Eckert, "Spray Forming of Bulk $Al_{85}Y_8Ni_5Co_2$ with Co-Existing Amorphous, Nano- and Micro-Crystalline Structures", *Trans. Indian Inst. Metals* **62**, 331 (2009).
492. D.H. Pi, J.K. Lee, M.H. Lee, S. Yi, J. Eckert, K.B. Kim, "Role of Heterogeneity on Deformation Behavior of Bulk Metallic Glasses", *J. Alloys & Compounds* **486**, 233 (2009).
493. D. Klemm, V. Hoffmann, K. Wetzig, J. Eckert, "DC- and RF-DG-OES Measurements of Adsorbed Organic Monolayers on Copper", *Anal. Bioanal. Chem.* **395**, 1893 (2009).
494. S. Pauly, M.H. Lee, D.H. Kim, K.B. Kim, D.J. Sordelet, J. Eckert, "Crack Evolution in Bulk Metallic Glasses", *J. Appl. Phys.* **106**, 103518 (2009).
495. H.-J. Jun, K.S. Lee, U. Kühn, J. Eckert, Y.W. Chang, "Effect of Crystalline Phases on Deformation and Warm Formability of a Bulk Metallic Glass Composite within Supercooled Liquid Region", *Mater. Sci. Eng. A* **526**, 62 (2009).
496. G. Wang, N. Mattern, S. Pauly, J. Bednarčik, J. Eckert, "Atomic Structure Evolution in Bulk Metallic Glass under Compressive Stress", *Appl. Phys. Lett.* **95**, 251906 (2009).
497. W. Xu, X. Wu, R.B. Figueiredo, M. Stoica, M. Calin, J. Eckert, T.G. Langdon, K. Xia, "Nanocrystalline Body-Centered Cubic Beta-Titanium Alloy Processed by High Pressure Torsion", *Int. J. Mater. Res. (formerly Z. Metallkde)* **100**, 1662 (2009).
498. R. Li, G. Liu, M. Stoica, J. Eckert, "FeCo-Based Multiphase Composites with High Strength and Large Plastic Deformation", *Intermetallics* **18**, 134 (2010).
499. J.M. Park, G. Wang, R. Li, N. Mattern, J. Eckert, D.H. Kim, "Enhancement of Plastic Deformability in Fe-Ni-Nb-B Bulk Glassy Alloys by Controlling the Ni-to-Fe Concentration Ratio", *Appl. Phys. Lett.* **96**, 031905 (2010).
500. M. Calin, J. Das, K.B. Kim, S. Pauly, N. Mattern, J. Eckert, "Enhanced Work Hardening of Cu-Based Bulk Metallic Glass Composites by In-Situ Formed Nano-Scale Heterogeneities", in: *"Ductility of Nanostructured Materials", (Eds. Y.H. Zhao, X.Z. Liao). Special Volume Mater. Sci. Forum* **633-634**, 665 (2010).
501. K.B. Surreddi, S. Scudino, M. Sakaliyska, K.G. Prashanth, D.J. Sordelet, J. Eckert, "Crystallization Behavior and Consolidation of Gas-Atomized $Al_{84}Gd_6Ni_7Co_3$ Glassy Powder", *J. Alloys & Compounds* **491**, 137 (2010).
502. G.A. Song, D.H. Kim, D.H. Kim, M.H. Lee, J.K. Lee, J.M. Park, J. Eckert, K.B. Kim, "Deformation Mechanisms of a Bimodal Eutectic $Mg_{72}Cu_5Zn_{23}$ Ultrafine Composite", *Mater. Lett.* **64**, 534 (2010).
503. M. Stoica, J. Das, J. Bednarčik, G. Wang, G. Vaughan, W.H. Wang, J. Eckert, "Mechanical Response of Metallic Glasses: Insights from In-Situ High Energy X-Ray Diffraction", *JOM* **62**, 76 (2010).
504. U. Kühn, J. Romberg, N. Mattern, H. Wendrock, J. Eckert, "Transformation-Induced Plasticity in Fe-Cr-V-C", *J. Mater. Res.* **25**, 368 (2010).
505. S. Gorantla, S. Avdoshenko, F. Börrnert, A. Bachmatiuk, M. Dimitrakopoulou, F. Schäffel, R. Schönfelder, J. Thomas, T. Gemming, J.H. Warner, G. Cuniberti, J. Eckert, B. Büchner, M.H. Rümmeli, "Enhanced π-π Interactions Between a C_{60} Fullerene and a Buckle Bend on a Double-Walled Carbon Nanotube", *Nano Res.* **3**, 92 (2010).
506. D. Mikhailova, N. Narayanan, A. Voss, H. Ehrenberg, D.M. Trots, C. Ritter, J. Eckert, H. Fuess, "Solid Solution $Sr_2Sc_{1+x}Re_{1-x}O_6$ with a Perowskite-Like Structure: Phase Transitions and Magnetic Properties", *Europ. J. Inorg. Chem.* **8**, 1196 (2010).
507. V.C. Srivastava, K.B. Surreddi, S. Scudino, M. Schowalter, V. Uhlenwinkel, A. Schulz, J. Eckert, A. Rosenauer, H.-W. Zoch, "Microstructure and Mechanical Properties of Partially Amorphous $Al_{85}Y_5Ni_5Co_2$ Plate Produced by Spray Forming", *Mater. Sci. Eng. A* **527**, 2747 (2010).
508. T.E. Kim, J.M. Park, S.W. Sohn, D.H. Kim, W.T. Kim, M. Stoica, U. Kühn, J. Eckert, "Effect of Carbon Addition on the Microstructural Evolution and Mechanical Properties in Hypo-Eutectic Fe-Zr(-Nb) Alloys", *Mater. Trans.* **51**, 799 (2010).
509. N. Mattern, T. Gemming, J. Thomas, G. Goerigk, H. Franz, J. Eckert, "Phase Separation in Ni-Nb-Y Metallic Glasses", *J. Alloys & Compounds* **495**, 299 (2010).

510. V. Efimova, A. Derzsi, A. Zlotorowicz, V. Hoffmann, Z. Donkó, J. Eckert, "Influence of the Anode Material on the Characteristics of an Analytical Glow Discharge Cell", *Spectrochimica Acta Part B* **65**, 311 (2010).
511. T. Marr, J. Freudenberger, L. Schultz, J. Scharnweber, C.-G. Oertel, W. Skrotzki, U. Siegel, U. Kühn, J. Eckert, "Damaszen Leichtmetall", *Metall* **64**, 168 (2010).
512. A. Gebert, A. Concustell, A.L. Greer, L. Schultz, J. Eckert, "Effect of Shot-Peening on the Corrosion Resistance of a Zr-Based Bulk Metallic Glass", *Scripta Mater.* **62**, 635 (2010).
513. M.H. Lee, K.S. Lee, J. Das, J. Thomas, U. Kühn, J. Eckert, "Improved Plasticity of Bulk Metallic Glasses Upon Cold Rolling", *Scripta Mater.* **62**, 678 (2010).
514. S. Scudino, K.B. Surreddi, G. Wang, J. Eckert, "Enhanced Plastic Deformation of $Zr_{41.2}Ti_{13.8}Cu_{12.5}Ni_{10}Be_{22.5}$ Bulk Metallic Glass by the Optimization of Frictional Boundary Restraints", *Scripta Mater.* **62**, 750 (2010).
515. J. Das, R. Theissmann, W. Löser, J. Eckert, "Effect of Sn on Microstructure and Mechanical Properties of Ti-Fe-(Sn) Ultrafine Eutectic Composites", *J. Mater. Res.* **25**, 943 (2010).
516. F. Börrnert, S. Gorantla, A. Bachmatiuk, J.H. Warner, I. Ibrahim, J. Thomas, T. Gemming, J. Eckert, G. Cuniberti, B. Büchner, M.H. Rümmeli, "In Situ Observations of Self-Repairing Single-Walled Carbon Nanotubes", *Phys. Rev. B.* **81**, 201401(R) (2010).
517. S. Scudino, K.B. Surreddi, J. Eckert, "Mechanical Propeties of Cold-Rolled $Zr_{60}Ti_5Ag_5Cu_{12.5}Al_{7.5}$ Metallic Glass", *Phys. Stat. Sol. A* **207**, 1118 (2010).
518. M. Stoica, S. Roth, J. Eckert, T. Karan, S. Ram, G. Vaughan, A.R. Yavari, "FeCoBSiNb Bulk Metallic Glasses with Cu Additions", *Phys. Stat. Sol. C* **207**, 1331 (2010).
519. S. Pauly, S. Gorantla, G. Wang, U. Kühn, J. Eckert, "Transformation-Mediated Ductility in CuZr-Based Bulk Metallic Glasses", *Nature Mater.* **9**, 473 (2010).
520. A. Schlieter, U. Kühn, J. Eckert, H.-J. Seifert, "Microstructure, Thermal, and Mechanical Characterization of Rapidly Solidified High Strength $Fe_{84.3}Cr_{4.3}Mo_{4.6}V_{2.2}C_{4.6}$", *J. Mater. Res.* **25**, 1164 (2010).
521. J. Gluch, T. Rößler, D. Schmidt, S.B. Menzel, M. Albert, J. Eckert, "TEM Characterization of ALD Layers in Deep Trenches Using a Dedicated FIB Lamellae Preparation Method", *Thin Solid Films* **518**, 4553 (2010).
522. R. Li, M. Stoica, G. Liu, J. Eckert, "Evolution of Constitution, Structure and Morphology in FeCo-Based Multicomponent Alloys", *Metall. Mater. Trans.* **41A**, 1640 (2010).
523. J.M. Park, J.H. Na, D.H. Kim, K.B. Kim, N. Mattern, U, Kühn, J. Eckert, "Medium Range Ordering and its Effect on Plasticity of Fe-Mn-B-Y-Nb Bulk Metallic Glass", *Phil. Mag.* **90**, 2619 (2010).
524. R. Li, M. Stoica, G. Wang, J.M. Park, Y. Li, T. Zhang, J. Eckert, "Glass Formation, Thermal Properties and Elastic Constants of La-Al-Co Alloys", *J. Mater. Res.* **25**, 1398 (2010).
525. R. Sueptitz, J. Das, S. Baunack, A. Gebert, J. Eckert, L. Schultz, "Corrosion and Pitting Behaviour of Ultrafine Eutectic Ti-Fe-Sn Alloys", *J. Alloys & Compounds* **503**, 19 (2010).
526. Q. Luo, B. Schwarz, N. Mattern, J. Eckert, "Giant Irreversible Positive to Reversible Negative Magnetic Entropy Change Evolution in Tb-Based Bulk Metallic Glass", *Phys. Rev. B* **82**, 024204 (2010).
527. B. Schwarz, B. Podmilsak, N. Mattern, J. Eckert, "Magnetocaloric Effect in Gd-Based $Gd_{60}Fe_xCo_{30-x}Al_{10}$ Metallic Glasses", *J. Magn. Magn. Mater.* **322**, 2298 (2010).
528. J.W. Cui, R.T. Qu, F.F. Wu, Z.F. Zhang, B.L. Shen, M. Stoica, J. Eckert, "Shear Band Evolution During Large Plastic Deformation of Brittle and Ductile Metallic Glasses", *Phil. Mag. Lett.* **90**, 573 (2010).
529. S. Pauly, G. Liu, S. Gorantla, G. Wang, U. Kühn, D.H. Kim, J. Eckert, "Criteria for Tensile Plasticity in Cu-Zr-Al Bulk Metallic Glasses", *Acta Mater.* **58**, 4883 (2010).
530. I. Chumak, G. Dmytriv, V. Pavlyuk, S. Oswald, J. Eckert, H. Trill, H. Eckert, H. Pauly, H. Ehrenberg, "$Li(Al_{1-z}Zn_z)$ Alloys as Anode Materials for Rechargeable Li-Ion Batteries", *J. Mater. Res.* **25**, 1492 (2010).
531. S. Pauly, J. Bednarčik, U. Kühn, J. Eckert, "Plastically Deformable Cu-Zr Intermetallics", *Scripta Mater.* **63**, 336 (2010).

532. L.C. Zhang, M. Calin, F. Paturaud, J. Eckert, "Deformation-Induced Grain Refinement in Body-Centered Cubic Co-Fe Alloys upon Room Temperature Compression", *Mater. Sci. Eng. A* **527,** 5796 (2010).
533. N.S. Barekar, S. Pauly, R.B. Kumar, U. Kühn, B.K. Dhindaw, J. Eckert, "Structure-Property Relations in Bulk Metallic Cu-Zr-Al-Alloys", *Mater. Sci.Eng. A* **527,** 5867 (2010).
534. M. Stoica, R. Li, A.R. Yavari, G. Vaughan, J. Eckert, N. Van Steenberge, D. Ruiz Romera, "Thermal Stability and Magnetic Properties of FeCoBSiNb Metallic Glasses", *J. Alloys & Compounds* **504S**, S123 (2010).
535. R. Li, S.J. Pang, M. Stoica, J.M. Park, U. Kühn, T. Zhang, J. Eckert, "Mechanical Properties of Rapidly Solidified Fe-Al-B Ternary Alloys", *J. Alloys & Compounds* **504S**, S472 (2010).
536. S. Scudino, M. Sakaliyska, K.B. Surreddi, F. Ali, J. Eckert, "Structure and Mechanical Properties of Al-Mg Alloys Produced by Copper Mold Casting", *J. Alloys & Compounds* **504S**, S483 (2010).
537. M. Stoica, N. Van Steenberge, J. Bednarčik, N. Mattern, H. Franz, J. Eckert, "Changes in Short-Range Order of $Zr_{55}Cu_{30}Al_{10}Ni_5$ and $Zr_{55}Cu_{20}Al_{10}Ni_{10}Ti_5$ BMGs upon Annealing", *J. Alloys & Compounds* **506**, 85 (2010).
538. R.T. Qu, M. Stoica, J. Eckert, Z.F. Zhang, "Tensile Fracture Morphologies of Bulk Metallic Glass", *J. Appl. Phys.* **108**, 063509 (2010).
539. M.H. Lee, K.T. Kim, T. Gemming, D.J. Sordelet, J. Eckert, "Enhanced Gas Absorption Property of Hybrid Nanopore-Structured Copper Oxide Synthesized from the CNT/Copper Composites", *J. Appl. Phys.* **108**, 064303 (2010).
540. B. Schwarz, N. Mattern, S. Oswald, J. Eckert, "Surface Oxidation and Magnetic Properties of $(Cu_{60}Co_{40})_{68}Zr_{32}$ Glassy Ribbons", *J. Alloys & Compounds* **506**, 520 (2010).
541. J.M. Park, K.B. Kim, D.H. Kim, N. Mattern, R. Li, G. Liu, J. Eckert, "Multi-Phase Al-Based Ultrafine Composite with Multi-Scale Microstructure", *Intermetallics* **18**, 1829 (2010).
542. N. Mattern, U.Vainio, B. Schwarz, J.M. Park, D.H. Kim, J. Eckert, "Phase Separation in $Ni_{70}Nb_{30-x}Y_x$ Glasses", *Intermetallics* **18**, 1842 (2010).
543. M.H. Lee, J. Das, K.S. Lee, U. Kühn, J. Eckert, "Effect of Prestraining on the Deformation and Fracture Behavior of $Zr_{41}Ti_{11}Cu_{9.8}Ni_{10.2}Be_{25}$", *Intermetallics* **18**, 1902 (2010).
544. J.M. Park, J. Jayaraj, D.H. Kim, N. Mattern, G. Wang, J. Eckert, "Tailoring of In-Situ Ti-Based Bulk Glassy Matrix Composites with High Mechanical Performance", *Intermetallics* **18**, 1908 (2010).
545. M.H. Lee, J.K. Lee, K.B. Kim, D.J. Sordelet, J. Eckert, J.C. Bae, "Mechanical Behavior of Metallic Glass Reinforced Nanostructured Tungsten Composites Synthesized by Spark Plasma Sintering", *Intermetallics* **18**, 2009 (2010).
546. I. Kaban, P. Jóvári, M. Stoica, N. Mattern, J. Eckert, W. Hoyer, B. Beuneu, "On the Atomic Structure of $Zr_{60}Cu_{20}Fe_{20}$ Metallic Glass", *J. Phys.: Condens. Matter* **22**, 404208 (2010).
547. S. Gorantla, F. Börrnert, A. Bachmatiuk, M. Dimitrakopoulou, R. Schönfelder, F. Schäffel, J. Thomas, T. Gemming, E. Borowiak-Palen, J.H. Warner, B.I. Yakobson, J. Eckert, B. Büchner, M.H. Rümmeli, "In-Situ Observations of Fullerene Fusion and Ejection in Carbon Nanotubes", *Nanoscale* **2**, 2077 (2010).
548. S. Scudino, K. B. Surreddi, M. Samadi Khoshkhoo, M. Sakaliyska, G. Wang, J. Eckert, "Improved Room Temperature Plasticity of $Zr_{41.2}Ti_{13.8}Cu_{12.5}Ni_{10}Be_{22.5}$ Bulk Metallic Glass by Channel-Die Compression", *Adv. Eng. Mater.* **12**, 1123 (2010).
549. J.M. Park, S. Pauly, N. Mattern, D.H. Kim, J. Eckert, "Microstructural Modulations Enhance the Mechanical Properties in Al-Cu-(Si, Ga) Ultrafine Composites", *Adv. Eng. Mater.* **12**, 1137 (2010).
550. N. Zheng, G. Wang, L.C. Zhang, M. Calin, M. Stoica, G. Vaughan, N. Mattern, J. Eckert, "In Situ High Energy X-Ray Diffraction Observation of Structural Evolution in a Ni-Free Ti-Based Bulk Metallic Glass upon Heating", *J. Mater. Res.* **25**, 2271 (2010).
551. J.M. Park, D.H. Kim, K.B. Kim, J. Eckert, "Improving the Plasticity of a High Strength Fe-Si-Ti Ultrafine Composite by Introduction of an Immiscible Element", *Appl. Phys. Lett.* **97**, 251915 (2010).
552. T. Marr, J. Freudenberger, A. Kauffmann, J. Scharnweber, C.-G. Oertel, W. Skrotzki, U. Siegel, U. Kühn, J. Eckert, U. Martin, L. Schultz, "Damascene Light Weight Metals", *Adv. Eng. Mater.* **12**, 1191 (2010).

553. K.T. Kim, J. Eckert, G. Liu, J.M. Park, B.K. Lim, S.H. Hong, "Influence of Embedded-Carbon Nanotubes on the Thermal Properties of Copper Matrix Nanocomposites Processed by Molecular-Level Mixing", *Scripta Mater.* **64**, 181 (2011).
554. J. Hufenbach, U. Kühn, L. Krüger, H. Wendrock, J. Eckert, "Transformation-Induced Plasticity in Rapidly Solidified $Fe_{88.9}Cr_{4.3}V_{2.2}C_{4.6}$", *Steel Research International* **82**, 51 (2011).
555. M. Löffler, U. Weissker, T. Mühl, T. Gemming, J. Eckert, B. Büchner, "Current-Induced Mass Transport in Filled Multiwalled Carbon Nanotubes", *Adv. Mater.* **23**, 541 (2011).
556. M. Stoica, A. Bárdos, S. Roth, L.K. Varga, L. Schultz, A. Lovas, J. Eckert, "Improved Synthesis of Bulk Metallic Glasses by Current-Assisted Copper Mold Casting", *Adv. Eng. Mater.* **13**, 38 (2011).
557. J.M. Park, D.H. Kim, K.B. Kim, N. Mattern, J. Eckert, "Evolution of Constitution, Structure and Mechanical Properties in Fe-Ti-Zr-B Heterogeneous Multiphase Composites", *J. Mater. Res.* **26**, 365 (2011).
558. M. Stoica, V. Kolesar, J. Bednarčik, S. Roth, H. Franz, J. Eckert, "Thermal Stability and Magnetic Properties of Partially Co-Substituted $(Fe_{71.2}B_{24}Y_{4.8})_{96}Nb_4$ Bulk Metallic Glasses", *J. Appl. Phys.* **109**, 054901 (2011).
559. A. Schlieter, U. Kühn, J. Eckert, W. Löser, T. Gemming, M. Friák, J. Neugebauer, "Anisotropic Mechanical Behavior of Ultrafine Eutectic TiFe Cast under Non-Equilibrium Conditions", Intermetallics **19**, 327 (2011).
560. B. Schwarz, U. Vainio, N. Mattern, S.W. Sohn, S. Oswald, D.H. Kim, J. Eckert, "Combined In-Situ SAXS / WAXS and HRTEM Study on Crystallization of $(Cu_{60}Co_{40})_{1-x}Zr_x$ Metallic Glasses", *J. Non-Cryst. Solids* **357**, 1538 (2011).
561. J. Tan, Y. Zhang, M. Stoica, U. Kühn, N. Mattern, F.S. Pan, J. Eckert, "Study of Mechanical Property and Crystallization of a ZrCoAl Bulk Metallic Glass", *Intermetallics* **19**, 567 (2011).
562. V. Efimova, V. Hoffmann, J. Eckert, "Electrical Properties of the µs Pulsed Glow Discharge in a Grimm-Type Source: Comparison of dc and rf Modes", *J. Anal. At. Spectrom.* **26**, 784 (2011).
563. J. Tan, Y. Zhang, B.A. Sun, M. Stoica, C.J. Li, K.K. Song, U. Kühn, F.S. Pan, J. Eckert, "Correlation between Internal States and Plasticity in Bulk Metallic Glass", *Appl. Phys. Lett.* **98**, 151906 (2011).
564. R.T. Qu, J. Eckert, Z.F. Zhang, "Tensile Fracture Criterion of Metallic Glass", *J. Appl. Phys.* **109**, 083544 (2011).
565. R.V. Gudavarthy, S. Gorantla, G.J. Mu, E.A. Kulp, T. Gemming, J. Eckert, J.A. Switzer, "Epitaxial Electrodeposition of Fe_3O_4 on Single-Crystal Ni(111)", *Chem. Mater.* **23**, 2017 (2011).
566. J. Gluch, T. Rößler, S.B. Menzel, J. Eckert, "Microstructure and Stress in High-k Hf-Y-O Thin Films", *Microelectronic Engineering* **88**, 561 (2011).
567. G.A. Almyras, D.G. Papageorgiou, Ch. E. Lekka, N. Mattern, J. Eckert, G.A. Evangalakis, "Atomic Cluster Arrangements in Reverse Monte Carlo and Molecular Dynamics Structural Models of Binary Cu-Zr Metallic Glasses", *Intermetallics* **19**, 657 (2011).
568. P. Gargarella, M.F. de Oliveira, C.S. Kiminami, S. Pauly, U. Kühn, C. Bolfarini, W.J. Botta, J. Eckert, "Prediction of Good Glass-Formers in the Al-Ni-La and Al-Ni-Gd Systems Using Topological Instability and Electronegativity", *J. Appl. Phys.* **109**, 093509 (2011).
569. G.S. Dmytriv, V.V. Pavlyuk, H. Pauly, J. Eckert, H. Ehrenberg, "New Real Ternary and Pseudoternary Phases in the Li-Au-In System", *J. Solid State Chemistry* **184**, 1328 (2011).
570. S.Y. Kim, S.S. Jee, K.R. Lim, W.T. Kim, D.H. Kim, E.-S. Lee, Y.H. Kim, S.M. Lee, J.H. Lee, J. Eckert, "Replacement of Oxide Glass with Metallic Glass for Ag Screen Printing Metallization on Si Emitter", *Appl. Phys. Lett.* **98**, 222112 (2011).
571. L.C. Zhang, D. Klemm, J. Eckert, Y.L. Hao, T. Sercombe, "Manufacture by Selective Laser Melting and Mechanical Behavior of a Biomedical Ti-24Nb-4Zr-8Sn Alloy ", *Scripta Mater.* **65**, 21 (2011).
572. J.M. Park, G. Wang, S. Pauly, N. Mattern, D.H. Kim, J. Eckert, "Ductile Ti-Based Bulk Metallic Glasses with High Specific Strength", *Metall. Mater. Trans.* **42A**, 1456 (2011).
573. M. Stoica, R. Li, S. Roth, J. Eckert, G. Vaughan, A.R. Yavari, "$[(Fe_{0.5}Co_{0.5})_{0.75}B_{0.20}Si_{0.05}]_{96}Nb_4$ Metallic Glasses with Small Cu Additions", *Metall. Mater. Trans.* **42A**, 1476 (2011).

574. Y. Zhang, N. Mattern, J. Eckert, "Effect of Uniaxial Loading on the Structural Anisotropy and the Dynamics of Atoms of $Cu_{50}Zr_{50}$ Metallic Glasses within the Elastic Regime Studied by Molecular Dynamics Simulation", *Acta Mater.* **59**, 4303 (2011).
575. Q. Luo, B. Schwarz, N. Mattern, J. Eckert, "Magnetic Ordering and Slow Dynamics in a Ho-Based Bulk Metallic Glass with Moderate Random Magnetic Anisotropy", *J. Appl. Phys.* **109**, 113904 (2011).
576. N. Mattern, U. Vainio, J.M. Park, J.H. Han, A. Shariq, D.H. Kim, J. Eckert, "Phase Separation in $Cu_{46}Zr_{47-x}Al_7Gd_x$ Metallic Glasses", *J. Alloys & Compounds* **509S**, S23 (2011).
577. J.H. Han, N. Mattern, D.H. Kim, J. Eckert, "Phase Separation and Microstructure Evolution of Rapidly Quenched Gd-Hf-Co-Al lloys", *J. Alloys & Compounds* **509S**, S42 (2011).
578. Y. Zhang, N. Mattern, J. Eckert, "Molecular Dynamic Simulation Study of the Structural Anisotropy in $Cu_{50}Zr_{50}$ and $Cu_{64.5}Zr_{35.5}$ Metallic Glasses Induced by Static Uniaxial Loading within the Elastic Regime", *J. Alloys & Compounds* **509S**, S74 (2011).
579. A. Castellero, T.A. Baser, J. Das, P. Matteis, J. Eckert, L. Battezzati, M. Baricco, "Role of Crystalline Precipitates on the Mechanical Properties of $(Cu_{0.50}Zr_{0.50})_{100-x}Al_x$ (x = 4, 5, 7) Bulk Metallic Glasses", *J. Alloys & Compounds* **509S**, S99 (2011).
580. S. Scudino, B. Jerliu, K.B. Surreddi, U. Kühn, J. Eckert, "Effect of Cold Rolling on Compressive and Tensile Mechanical Properties of $Zr_{52.5}Ti_5Cu_{18}Ni_{14.5}Al_{10}$ Bulk Metallic Glass", *J. Alloys & Compounds* **509S**, S128 (2011).
581. P. Gargarella, M.F. de Oliveira, C.S. Kiminami, S. Pauly, U. Kühn, C. Bolfarini, W.J. Botta, J. Eckert, "Predicting Glass-Forming Compositions in the Al-La and Al-La-Ni Systems", *J. Alloys & Compounds* **509S**, S170 (2011).
582. F.A. Javid, N. Mattern, S. Pauly, J. Eckert, "Martensitic Transformation and Thermal Cycling Effect in Cu-Co-Zr Alloys", *J. Alloys & Compounds* **509S**, S334 (2011).
583. M. Samadi Khoshkhoo, S. Scudino, J. Thomas, K.B. Surreddi, J. Eckert, "Grain and Crystallite Size Evaluation of Cryomilled Pure Copper", *J. Alloys & Compounds* **509S**, S343 (2011).
584. J.M. Park, D.H. Kim, N. Mattern, K.B. Kim, E. Fleury, J. Eckert, "Microstructure and Mechanical Properties of Fe-Si-Ti-(Cu, Al) Heterostructured Ultrafine Composites", *J. Alloys & Compounds* **509S**, S367 (2011).
585. K.T. Kim, G.H. Ha, J. Eckert, "Microstructures and Magnetic Properties of Carbon Nanotube/ Co-Oxide Nanocomposite Powders", *J. Alloys & Compounds* **509S**, S412 (2011).
586. B. Schwarz, N. Mattern, J.D. Moore, K.P. Skokov, O. Gutfleisch, J. Eckert, "Influence of Sample Geometry on Determination of Magnetocaloric Effect for $Gd_{60}Co_{30}Al_{10}$ Glassy Ribbons Using Direct and Indirect Methods", *J. Magn. Magn. Mater.* **323**, 1782 (2011).
587. N.K. Mukhopadhyay, F. Ali, V.C. Srivastava, T.P. Yadav, M. Sakaliyska, K.B. Surreddi, S. Scudino, V. Uhlenwinkel, J. Eckert, "Strain-Induced Structural Transformation of Single-Phase Al-Cu-Fe Icosahedral Quasicrystal during Mechanical Milling", *Phil. Mag.* **91**, 2482 (2011).
588. N.S. Barekar, P. Gargarella, K.K. Song, S. Pauly, U. Kühn, J. Eckert, "Effect of Al and Ag Additions on Phase Formation, Thermal Stability and Mechanical Properties of Cu-Zr-Based Bulk Metallic Glasses", *J. Mater. Res.* **26**, 1702 (2011).
589. G.Z. Parzych, D. Mikhailova, S. Oswald, J. Eckert, H. Ehrenberg, "Study of the Conversion Reaction Mechanism for Copper Borate as Electrode Material in Lithium-Ion Batteries", *J. Electrochem. Soc.* **158**, A898 (2011).
590. J.M. Park, D.H. Kim, M. Stoica, N. Mattern, R. Li, J. Eckert, "The Influence of In Situ Formed Precipitates on the Plasticity of Fe-Nb-B-Cu Bulk Metallic Glasses", *J. Mater. Res.* **26**, 2080 (2011).
591. J.S. Kim, M.H. Lee, S. Yi, D.J. Sordelet, U. Kühn, J. Eckert, "Effect of Crystallization on the Surface Area of Porous Ni-Based Metallic Glass Foams", *Phil. Mag. Lett.* **91**, 582 (2011).
592. J.L. Ren, C. Chen, G. Wang, N. Mattern, J. Eckert, "Dynamics of Serrated Flow in a Bulk Metallic Glass", *AIP Advances* **1**, 032158 (2011).
593. T. Karan, S. Ram, M. Stoica, J. Eckert, "Effect of Copper Additives on Irreversible Melting in $[\{(Fe_{0.5}Co_{0.5})_{0.75}B_{0.2}Si_{0.05}\}_{96}Nb_4]_{100-x}Cu_x$, $x \leq 3$ Alloys", *Int. J. of Nanoscience* **10**, 1013 (2011).
595. K.K. Song, S. Pauly, Y. Zhang, S. Scudino, P. Gargarella, K.B. Surreddi, U. Kühn, J. Eckert, "Significant Tensile Ductility Induced by Cold-Rolling in $Cu_{47.5}Zr_{47.5}Al_5$ Bulk Metallic Glass", *Intermetallics* **19**, 1394 (2011).

595. I. Kaban, P. Jóvári, T. Wágner, M. Bartoš, M. Frumar, B. Beuneu, W. Hoyer, N. Mattern, J. Eckert, "Structural Study of AsS_2-Ag Glasses over a Wide Concentration Range", *J. Non-Cryst. Solids* **357**, 3430 (2011).
596. G. Liu, S. Scudino, R. Li, U. Kühn, J. Sun, J. Eckert, "Coupling Effect of Primary Voids and Scondary Voids on the Ductile Fracture of Heat-Treatable Aluminum Alloys", *Mechanics of Materials* **43**, 556 (2011).
597. K.K. Song, S. Pauly, Y. Zhang, P. Gargarella, R. Li, N.S. Barekar, U. Kühn, M. Stoica, J. Eckert, "Strategy for Pinpointing the Formation of B2 CuZr in Metastable CuZr-Based Shape Memory Alloys", *Acta Mater.* **59**, 6620 (2011).
598. K.G. Prashanth, S. Kumar, S. Scudino, B.S. Murty, J. Eckert, "Fabrication and Response of $Al_{70}Y_{16}Ni_{10}Co_4$ Glass Reinforced Metal Matrix Composites", *Materials and Manufacturing Processes* **26**, 1242 (2011).
599. I. Kaban, M. Köhler, L. Ratke, W. Hoyer, N. Mattern, J. Eckert, A.L. Greer, "Interfacial Tension, Wetting and Nucleation in Al-Bi and Al-Pb Monotectic Alloys", *Acta Mater.* **59**, 6880 (2011).
600. A.A. Antonysamy, S. Pauly, B.K. Dhindaw, J. Eckert, "Influence of Superheat on Microstructure and Mechanical Properties of Ductile $Cu_{47.5}Zr_{47.5}Al_5$ Bulk Metallic Glass-Matrix Composite", *J. Mater. Eng. Perform.* **20**, 1196 (2011).
601. L. Wondraczek, J.C. Mauro, J. Eckert, U. Kühn, J. Horbach, J. Deubener, T. Rouxel, "Towards Ultra-Strong Glasses", *Adv. Mater.* **23**, 4578 (2011).
602. V. Kokotin, H. Hermann, J. Eckert, "Computer Simulation of the Matrix-Inclusion Interphase in Bulk Metallic Glass Based Nanocomposites", *J. Phys.: Condens. Matter* **23**, 425403 (2011).
603. M. Friák, T. Hickel, B. Grabowski, L. Lymperakis, A. Udyansky, A. Dick, D. Ma, F. Roters, L.-F. Zhu, A. Schlieter, U. Kühn, Z. Ebrahimi, R.A. Lebensohn, D. Holec, J. Eckert, H. Emmerich, D. Raabe, J. Neugebauer, "Methodological Challenges in Combining Quantum-Mechanical and Continuum Approaches for Materials Science Applications", *Eur. Phys. J. Plus* **126**, 101 (2011).
604. S. Scudino, B. Jerliu, S. Pauly, K.B. Surreddi, U. Kühn, J. Eckert, "Ductile Bulk Metallic Glasses through Designed Heterogeneities", *Scripta Mater.* **65**, 815 (2011).
605. Y. Zhang, N. Mattern, J. Eckert, "Atomic Structure and Transport Properties of $Cu_{50}Zr_{45}Al_5$ Metallic Liquids and Glasses: Molecular Dynamics Simulations", *J. Appl. Phys.* **110**, 093506 (2011).
606. H. Bahmanpour, A. Kauffmann, M.S. Khoshkhoo, K.M. Youssef, S. Mula, J. Freudenberger, J. Eckert, R.O. Scattergood, C.C. Koch, "Effect of Stacking Fault Energy on Deformation Behaviour of Cryo-Rolled Copper and Copper Alloys", *Mater. Sci. Eng. A* **529**, 230 (2011).
607. A. Kauffmann, S. Yin, J. Freudenberger, L. Schultz, M.S. Khoshkhoo, H. Wendrock, J. Eckert, W. Schillinger, V. Subramanya Sarma, H. Bahmanpour, R.O. Scattergood, C.C. Koch, "Zwillingsbildung durch Kryoumformung", *Metall* **65**, 501 (2011).
608. T. Marr, J. Freudenberger, D. Seifert, H.-J. Klauß, J. Romberg, I. Okulov, J. Scharnweber, A. Eschke, C.-G. Oertel, W. Skrotzki, U. Kühn, J. Eckert, L. Schultz, "Ti-Al Composite Wires with High Specific Strength", *Metals* **1**, 79 (2011).
609. H.J. Su, J. Zhang, L. Liu, J. Eckert, H.Z. Fu, "Rapid Growth and Formation Mechanism of Ultrafine Structural Oxide Eutectic Ceramics by Laser Direct Forming", *Appl. Phys. Lett.* **99**, 221913 (2011).
610. A. Kauffmann, J. Freudenberger, D. Geissler, S. Yin, W. Schillinger, V. Subramanya Sarma, H. Bahmanpour, R.O. Scattergood, M.S. Khoshkhoo, H. Wendrock, C.C. Koch, J. Eckert, L. Schultz, "Severe Deformation Twinning in Pure Copper by Cryogenic Wire Drawing", *Acta Mater.* **59**, 7816 (2011).
611. W. Xu, R.B. Figueiredo, X. Wu, S. Pauly, M. Stoica, J. Eckert, T.G. Langdon, K. Xia, "Intrinsically Ductile Failure in a Nanocrystalline Beta Titanium Alloy", *Adv. Eng. Mater.* **13**, 1108 (2011).
612. J. He, H.X. Jiang, J.Z. Zhao, N. Mattern, J. Eckert, "AlNiYCo Amorphous Matrix Composites Induced by Bismuth and Lead Additions", *Metall. Mater. Trans.* **42A**, 4100 (2011).
613. G. Wang, N. Mattern, J. Bednarčik, X. Lei, Q.J. Zhai, Y.D. Dong, J. Eckert, "Deformation Induced Structural Evolution in Bulk Metallic Glasses", *Chin. Sci. Bull.* **56**, 3952 (2011).

614. J. Torrens-Serra, S. Venkataraman, M. Stoica, U. Kühn, S. Roth, J. Eckert, "Non-Isothermal Kinetic Analysis of the Crystallization of Metallic Glasses Using the Master Curve Method", *Materials* **4**, 2231 (2011).
615. K.G. Prashanth, S. Scudino, M.S. Khoshkhoo, K.B. Surreddi, M. Stoica, G. Vaughan, J. Eckert, "Structure and Mechanical Characterization of $Zr_{58.5}Ti_{8.2}Cu_{14.2}Ni_{11.4}Al_{7.7}$ Bulk Metallic Glass", *Materials* **5**, 1 (2012).
616. T.E. Kim, J.M. Park, U. Kühn, J. Eckert, W.T. Kim, D.H. Kim, "In Situ Martensitic Phase Reinforced Fe-Nb-Ni-Mn Ultrafine Composite with Enhanced Mechanical Properties", *Mater. Sci. Eng. A* **531**, 51 (2012).
617. J.H. Han, N. Mattern, B. Schwarz, S. Gorantla, T. Gemming, J. Eckert, "Microstructure and Magnetic Properties of Gd-Hf-Co-Al Phase Separated Metallic Glasses", *Intermetallics* **20**, 115 (2012).
618. N. Mattern, M. Stoica, G. Vaughan, J. Eckert, "Thermal Behaviour of $Pd_{40}Cu_{30}Ni_{10}P_{20}$ Bulk Metallic Glass", *Acta Mater.* **60**, 517 (2012).
619. A. Perumal, M. Fröbel, S. Gorantla, T. Gemming, B. Lüssem, J. Eckert, K. Leo, "Novel Approach for Alternating Current (AC)-Driven Organic Light-Emitting Devices", *Adv. Funct. Mater.* **22**, 210 (2012).
620. F. Thoss, L. Giebeler, S. Oswald, H. Ehrenberg, J. Eckert, "Study on the Reversible Li-Insertion of Amorphous and Partially Crystalline $Al_{86}Ni_8La_6$ and $Al_{86}Ni_8Y_6$ Alloys as Anode Materials for Li-Ion Batteries", *Electrochimica Acta* **60**, 85 (2012).
621. J. Hufenbach, S. Kohlar, U. Kühn, L. Giebeler, J. Eckert, "Microstructural and Mechanical Characterization of an Ultra-High-Strength $Fe_{86.7}Cr_{4.4}Mo_{0.6}V_{1.1}W_{2.5}C_{4.7}$ Alloy", *J. Mater. Sci.* **47**, 267 (2012).
622. R. Hermann, H. Hermann, M. Calin, B. Büchner, J. Eckert, "Elastic Constants of Single Crystalline β-$Ti_{70}Nb_{30}$", *Scripta Mater.* **66**, 198 (2012).
623. R.T. Qu, J.X. Zhao, M. Stoica, J. Eckert, Z.F. Zhang, "Macroscopic Tensile Plasticity of Bulk Metallic Glass through Designed Artifical Defects", *Mater Sci. Ang. A.* **534**, 365 (2012).
624. Y. Zhang, N. Mattern, J. Eckert, "Understanding the Relationship between Atomic Structures and Transport Properties in $(Cu_{0.5}Zr_{0.5})_{100-x}Al_x$ ($x \leq 10$) Glass Forming Liquids: Molecular Dynamics Simulations", *J. Alloys & Compounds* **514**, 141 (2012).
625. L.-F. Zhu, M. Friák, A. Dick, B. Grabowski, T. Hickel, F. Liot, D. Holec, A. Schlieter, U. Kühn, J. Eckert, Z. Ebrahimi, H. Emmerich, J. Neugebauer, "First Principles Study of Thermodynamic and Elastic Properties of Eutectic Fe-Ti Alloys", *Acta Mater.* **60**, 1594 (2012).
626. S. Fähler, U.K. Rößler, O. Kastner, J. Eckert, G. Eggeler, H. Emmerich, P. Entel, S. Müller, E. Quandt, K. Albe, "Caloric Effects in Ferroic Materials: New Concepts for Cooling", *Adv. Eng. Mater.* **14**, 10 (2012).
627. N. Mattern, A. Shariq, B. Schwarz, U. Vainio, J. Eckert, "Structural and Magnetic Nanoclusters in $Cu_{50}Zr_{50-x}Gd_x$ (x = 5 at.%) Metallic Glasses", *Acta Mater.* **60**, 1946 (2012).
628. Y. Zhang, N. Mattern, J. Eckert, "Study of Direct Relationship Between Atomic Structures and Glass Forming Abilities of $Cu_{100-x}Zr_x$ ($0 \leq x \leq 10$) Liquids by Molecular Dynamics Simulations", *J. Appl. Phys. Lett.* **111**, 053520 (2012).
629. A. Gebert, P.F. Gostin, M. Uhlemann, J. Eckert, L. Schultz, "Interactions Between Mechanically Generated Defects and Corrosion Phenomena of Zr-Based Bulk Metallic Glasses", *Acta Mater.* **60**, 2300 (2012).
630. J. Tan, F.S. Pan, Y. Zhang, Z. Wang, M. Stoica, B.A. Sun, U. Kühn, J. Eckert, "Effect of Fe Addition on Glass Forming Ability and Mechanical Properties in Zr-Co-Al-(Fe) Bulk Metallic Glasses", *Mater. Sci. Eng. A* **539**, 124 (2012).
631. B. Schwarz, N. Mattern, Q. Luo, J. Eckert, "Magnetic Properties and Magnetocaloric Effect of Rapidly Quenched Gd-Co-Fe-Al Alloys", *J. Magn. Magn. Mater.* **324**, 1581 (2012).
632. G. Wang, N. Mattern, J. Bednarčik, R. Li, B. Zhang, J. Eckert, "Correlation between Elastic Structural Behavior and Yield Strength of Metallic Glasses", *Acta Mater.* **60**, 3074 (2012).
633. N. Zheng, R.T. Qu, S. Pauly, M. Calin, T. Gemming, Z.F. Zhang, J. Eckert, "Design of Ductile Bulk Metallic Glasses by Adding 'Soft' Atoms", *Appl. Phys. Lett.* **100**, 141901 (2012).
634. H. Hermann, V. Kokotin, J. Eckert, "Locally Fluctuating Cooling Rate as Possible Reason for Non-Crystalline Plasticity in Metallic Glasses", *EPL* **98**, 16003 (2012).

635. K.R. Lim, W.T. Kim, E.-S. Lee, S.S. Jee, S.Y. Kim, D.H. Kim, A. Gebert, J. Eckert, "Oxidation Resistance of the Supercooled Liquid in $Cu_{50}Zr_{50}$ and $Cu_{46}Zr_{46}Al_{58}$ Metallic Glasses", *J. Mater. Res.* **27**, 1178 (2012).
636. R.T. Qu, M. Calin, J. Eckert, Z.F. Zhang, "Metallic Glasses: Notch Insensitive Materials", *Scripta Mater.* **66**, 733 (2012).
637. J.Y. Kim, S. Scudino, U. Kühn, B.S. Kim, M.H. Lee, J. Eckert, "Production and Characterization of Brass-Matrix Composites Reinforced with $Ni_{59}Zr_{20}Ti_{16}Si_2Sn_3$ Glassy Particles", *Metals* **2**, 79 (2012).
638. O. Shuleshova, W. Löser, D. Holland-Moritz, D.M. Herlach, J. Eckert, "Solidification and Melting of High Temperature Materials: In Situ Observations by Synchrotron Radiation", *J. Mater. Sci.* **47**, 4497 (2012).
639. B.A. Sun, J. Tan, M. Stoica, W.H. Wang, U. Kühn, J. Eckert, "Serrated Flow and Stick-Slip Deformation Dynamics in the Presence of Shear-Band Interactions for a Zr-Based Metallic Glass", *Acta Mater.* **60**, 4160 (2012).
640. J. Hufenbach, L. Giebeler, M. Hoffmann, S. Kohlar, U. Kühn, T. Gemming, S. Oswald, B. Eigenmann, J. Eckert, "Effect of Short-Term Tempering on Microstructure and Mechanical Properties of High-Strength FeCrMoVC", *Acta Mater.* **60**, 4468 (2012).
641. A.H. Taghvaei, M. Stoica, M.S. Khoshkhoo, J. Thomas, G. Vaughan, K. Janghorban, J. Eckert, "Microstructure and Magnetic Properties of Amorphous/Nanocrystalline $Co_{40}Fe_{22}Ta_8B_{30}$ Alloy Produced by Mechanical Alloying", *Mater. Chem. Phys.* **134**, 1214 (2012).
642. J.H. Han, N. Mattern, B. Schwarz, D.H. Kim, J. Eckert, "Phase Separation and Magnetic Properties in Gd-(Hf,Ti,Y)-Co-Al Metallic Glasses", *Scripta Mater.* **67**, 149 (2012).
643. Y. Zhang, N. Mattern, T.X. Liang, Q. Huang, J. Eckert, "Atomic Packing and Short to Medium Range Order in a U-Fe Metallic Glass", *Appl. Phys. Lett.* **101**, 021909 (2012).
644. A.K. Chaubey, S. Scudino, K.G. Prashanth, M. Stoica, G. Vaughan, N.K. Mukhopadhyay, B.K. Mishra, J. Eckert, "Phase Transitions in Al_3Ca_8 and $Al_{14}Ca_{13}$ Intermetallic Compounds Induced by Milling and Annealing", *Mater. Lett.* **79**, 145 (2012).
645. K. Sakaushi, G. Nickerl, F.M. Wisser, D. Nishio-Hamane, E. Hosono, H. Zhou, S. Kaskel, J. Eckert, "An Energy Storage Principle using Bipolar Porous Polymeric Frameworks", *Angew. Chem. Int. Ed.* **51**, 7850 (2012).).
645a. K. Sakaushi, G. Nickerl, F.M. Wisser, D. Nishio-Hamane, E. Hosono, H. Zhou, S. Kaskel, J. Eckert, "Ein Energiespeicherprinzip auf Basis bipolarer poröser Polymernetzwerke", *Angew. Chem.* **124**, 7972 (2012).).
646. J.M. Park, J.H. Han, N. Mattern, D.H. Kim, J. Eckert, "Designing Zr-Cu-Co-Al Bulk Metallic Glasses with Phase Separation Mediated Plasticity", *Metall. Mater. Trans A* **43**, 2598 (2012).
647. F.A. Javid, N. Mattern, S. Pauly, J. Eckert, "Effect of Cobalt on Phase Formation, Microstructure and Mechanical Properties of $Cu_{50-x}Co_xZr_{50}$ (x = 2, 5, 10, 20 at.pct) Alloys", *Metall. Mater. Trans A* **43**, 2631 (2012).
648. J.M. Park, T.E. Kim, S.J. Kim, W.T. Kim, U. Kühn, J. Eckert, D.H. Kim, "Improving the Mechanical Properties of Fe-Nb-(Ni-Mn) Dendrite-Ultrafine Composites via Controlling the Primary Phase Features", *Metall. Mater. Trans A* **43**, 2680 (2012).
649. Q. Luo, B. Schwarz, N. Mattern, J. Shen, J. Eckert, "Mechanism of the Giant Irreversible Positive Magnetic Entropy Change in a Tb-Based Bulk Metallic Glass", *Appl. Phys. Lett.* **101**, 062411 (2012).
650. W. Xu, X. Wu, M. Stoica, M. Calin, U. Kühn, J. Eckert, K. Xia, "On the Formation of an Ultrafine-Duplex Structure Facilitated by Severe Shear Deformation in a Ti-20Mo β-Type Titanium Alloy", *Acta Mater.* **60**, 5067 (2012).
651. D. Beitelschmidt, S. Scudino, K.G. Prashanth, U. Kühn, J. Eckert, "Mechanical Behavior of the Cold-Rolled $Zr_{57}Ti_8Nb_{2.5}Cu_{13.9}Ni_{11.1}Al_{7.5}$ Metallic Glass-Quasicrystalline Composite", *Int. J. Mater. Res.* **103**, 1113 (2012).
652. K.K. Song, P. Gargarella, S. Pauly, G.Z. Ma, U. Kühn, J. Eckert, "Correlation between Glass-Forming Ability, Thermal Stability and Crystallization Kinetics of Cu-Zr-Ag Metallic Glasses", *J. Appl. Phys.* **112**, 063503 (2012).

653. M.H. Lee, J. Das, D.J. Sordelet, J. Eckert, A.J. Hurd, "Effect of Tungsten Metal Particle Sizes on the Solubility of Molten Alloy Melt: Experimental Observation of Gibbs-Thomson Effect in Nanocomposites", *Appl. Phys. Lett.* **101**, 124103 (2012).
654. Z.Q. Liu, R. Li, G. Liu, K.K. Song, S. Pauly, T. Zhang, J. Eckert, "Pronounced Ductility in CuZrAl Ternary Bulk Metallic Glass Composites with Optimized Microstructure through Melt Adjustment", *AIP Advances* **2**, 032176 (2012).
655. J.M. Park, D.H. Kim, J. Eckert, "Enhanced Plasticity of Fe-Nb-B-(Ni, Cu) Bulk Metallic Glasses by Controlling the Heterogeneity and Elastic Constants", *J. Alloys & Compounds* **536S**, S70 (2012).
656. F. Ali, S. Scudino, G. Liu, V.C. Srivastava, N.K. Mukhopadhyay, M. Samadi Khoshkoo, K.G. Prashanth, V. Uhlenwinkel, M. Calin, J. Eckert, "Modeling the Strengthening Effect of Al-Cu-Fe Quasicrystalline Particles in Al-Based Metal Matrix Composites", *J. Alloys & Compounds* **536S**, S130 (2012).
657. A.K. Chaubey, S. Scudino, N.K. Mukhopadhyay, M. Samadi Khoshkoo, B.K. Mishra, J. Eckert, "Effect of Particle Dispersion on the Mechanical Behavior of Al-Based Metal Matrix Composites Reinforced with Nanocrystalline Al-Ca Intermetallics", *J. Alloys & Compounds* **536S**, S134 (2012).
658. I. Kaban, P. Jóvári, R.-P. Wang, B. Luther-Davies, N. Mattern, J. Eckert, "Structural Investigations of $Ge_5As_xSe_{95-x}$ and $Ge_{15}As_xSe_{85-x}$ Glasses using X-ray Diffraction and Extended X-Ray Fine Structure Spectroscopy", *J. Phys.: Condens. Matter* **64**, 385802 (2012).
659. U. Kühn, J. Hufenbach, H. Wendrock, J. Eckert, W. Hufenbach, K. Kunze, "Extrem hohe Energieabsorption durch TRIP-Effekt", *Konstruktion* **9**, 10 (2012).
660. J.M. Park, D.H. Kim, J. Eckert, "Internal State Modulation-Mediated Plasticity Enhancement in Monolithic Ti-Based Bulk Metallic Glass", *Intermetallics* **29**, 70 (2012).
661. J. Kundin, R. Kumar, A. Schlieter, M.A. Choudhary, T. Gemming, U. Kühn, J. Eckert, H. Emmerich, "Phase-Field Modeling of Eutectic Ti-Fe Alloy Solidification", *Computational Materials Science* **63**, 319 (2012).
662. K.K. Song, S. Pauly, Y. Zhang, R. Li, S. Gorantla, N. Narayanan, U. Kühn, T. Gemming, J. Eckert, "Triple Yielding and Deformation Mechanisms in Metastable $Cu_{47.5}Zr_{47.5}Al_5$ Composites", *Acta Mater.* **60**, 6000 (2012).
663. V. Efimova, V. Hoffmann, J. Eckert, "Sputter Crater Formation in Case of Microsecond Pulsed Glow Discharge in a Grimm-Type Source. Comparison of Direct Current and Radio Frequency Modes", *Spectrochimica Acta Part B* **76**, 181 (2012).
664. H. Hermann, V. Kokotin, J. Eckert, "Theoretical Approach to Local and Effective Properties of BMG Based Matrix-Inclusion Nanocomposites", *Intermetallics* **30**, 40 (2012).
665. M.H. Lee, J.Y. Kim, U. Kühn, J. Eckert, "Influence of Viscous Flow on the Deformation Behavior of Bulk Metallic Glassy Alloys in Supercooled Liquid Region", *Intermetallics* **30**, 72 (2012).
666. Q. Luo, B. Schwarz, N. Mattern, J. Eckert, "Irreversible and Reversible Magnetic Entropy Change in a Dy-Based Bulk Metallic Glass", *Intermetallics* **30**, 76 (2012).
667. K.K. Song, S. Pauly, B.A. Sun, Y. Zhang, J. Tan, U. Kühn, M. Stoica, J. Eckert, "Formation of Cu-Zr-Al-Er Bulk Metallic Glass Composites with Enhanced Deformability", *Intermetallics* **30**, 132 (2012).
668. Y. Zhang, N. Mattern, J. Eckert, "Study of Structural Anisotropy in $Cu_{50}Zr_{45}Al_5$ Metallic Glass under Uniaxial Compression by Molecular Dynamics Simulations", *Intermetallics* **30**, 154 (2012).
669. B.A. Sun, J. Tan, S. Pauly, U. Kühn, J. Eckert, "Stable Fracture of a Malleable Zr-Based Bulk Metallic Glass", *J. Appl. Phys.* **112**, 103533 (2012).
670. A. Hynowska, E. Pellicer, J. Fornell, S. González, N. Van Steenberge, S. Suriñach, A. Gebert, M. Calin, J. Eckert, M.D. Baró, J. Sort, "Nanostructured β-Phase Ti-31.0Fe-9.0Sn and Sub-μm Structured Ti-39.3Nb-13.3Zr-10.7Ta Alloys for Biomedical Applications: Microstructure Benefits on the Mechanical and Corrosion Performances", *Mater. Sci. Eng. C* **32**, 2418 (2012).
671. N. Mattern, J.H. Han, M. Zinkevich, O. Shuleshova, I. Kaban, D. Holland-Moritz, J. Gegner, F. Yang, J. Bednarčik, W. Löser, J. Eckert, "Experimental and Thermodynamic Assessment of the Gd-Zr System", *CALPHAD* **39**, 27 (2012).

672. J. Tan, F.S. Pan, Y. Zhang, B.A. Sun, J. He, N. Zheng, M. Stoica, U. Kühn, J. Eckert, "Formation of Zr-Co-Al Bulk Metallic Glasses with High Strength and Large Plasticity", *Intermetallics* **31**, 282 (2012).
673. I. Kaban, M. Köhler, L. Ratke, R. Nowak, N. Sobczak, N. Mattern, J. Eckert, A.L. Greer, S.W. Sohn, D.H. Kim, "Phase Separation in Monotectic Alloys as a Route for Liquid State Fabrication of Composite Materials", *J. Mater. Sci.* **47**, 8360 (2012).
674. I. Kaban, R. Nowak, O. Shuleshova, B. Korpala, G. Bruzda, A. Siewiorek, J.H. Han, N. Sobczak, N. Mattern, J. Eckert, "Sessile Drop Study of Gd-Ti Monotectic Alloys on Ceramic Substrates: Phase Transformations, Wetting and Reactivity", *J. Mater. Sci.* **47**, 8381 (2012).
675. R. Sueptitz, K. Tschulik, C. Becker, M. Stoica, M. Uhlemann, J. Eckert, A. Gebert, "Micropatterning of Fe-Based Bulk Metallic Glass Surfaces by Pulsed Electrochemical Micromachining", *J. Mater. Res.* **27**, 3033 (2012).
676. R. Ummethala, V.O. Khavrus, A. Leonhardt, B. Büchner, J. Eckert, "A Comparative Study of Various Supported Catalysts on the Growth of Aligned Carbon Nanotube Forests on Aluminum Foils", *Chem. Vap. Deposition* **18**, 326 (2012).
677. A. Waske, H. Hermann, N. Mattern, K. Skokov, O. Gutfleisch, J. Eckert, "Magnetocaloric Effect of an Fe-Based Metallic Glass Compared to Benchmark Gadolinium", *J. Appl. Phys.* **112**, 123918 (2012).
678. K.K. Song, S. Pauly, Y. Zhang, B.A. Sun, J. He, G.Z. Ma, U. Kühn, J. Eckert, "Thermal Stability and Mechanical Properties of $Cu_{46}Zr_{46}Ag_8$ Bulk Metallic Glass and its Composites", *Mater. Sci. Eng. A* **559**, 711 (2013).
679. A.K. Chaubey, S. Scudino, M. Samadi Khoshkhoo, K.G. Prashanth, N.K. Mukhopadhyay, B.K. Mishra, J. Eckert, "Synthesis and Characterization of Nanocrystalline Mg-7.4%Al Powders Produced by Mechanical Alloying", *Metals* **3**, 58 (2013).
680. N. Mattern, J. Bednarčik, M. Stoica, J. Eckert, "Temperature Dependence of the Short-Range Order of $Cu_{65}Zr_{35}$ Metallic Glass", *Intermetallics* **32**, 51 (2013).
681. B. Schwarz, N. Mattern, O. Shuleshova, J. Eckert, "Liquid-Liquid Demixing and Microstructure of Co-Cu-Zr Alloys with Low Zr Content", *Intermetallics* **32**, 250 (2013).
682. W. Xu, D.P. Edwards, X. Wu, M. Stoica, M. Calin, U. Kühn, J. Eckert, K. Xia, "Promoting Nano/Ultrafine-Duplex Structure via Accelerated α Precipitation in a β-Type Titanium Alloy Severely Deformed by High Pressure Torsion", *Scripta Mater.* **68**, 67 (2013).
683. P. Gargarella, S. Pauly, K.K. Song, J. Hu, N.S. Barekar, M. Samadi Khoshkhoo, A. Teresiak, H. Wendrock, U. Kühn, C. Ruffing, E. Kerscher, J. Eckert, "Ti-Cu-Ni Shape Memory Bulk Metallic Glass Composites", *Acta Mater.* **61**, 151 (2013).
684. A. Seifoddini, M. Stoica, M. Nili-Ahmadabadi, S. Heshmati-Manesh, U. Kühn, J. Eckert, "New $(Fe_{0.9}Ni_{0.1})_{77}Mo_5P_9C_{7.5}B_{1.5}$ Glassy Alloys with Enhanced Glass-Forming Ability and Large Compressive Strain", *Mater. Sci. Eng. A* **560**, 575 (2013).
685. K.R. Lim, J.M. Park, S.J. Kim, E.-S. Lee, W.T. Kim, A. Gebert, J. Eckert, D.H. Kim, "Enhancement of Oxidation Resistance of the Supercooled Liquid in Cu-Zr-Based Metallic Glass by Forming an Amorphous Oxide Layer with High Thermal Stability", *Corr. Sci.* **66**, 1 (2013).
686. F.S. Fedorov, I. Mönch, C. Mickel, K. Tschulik, B. Zhao, M. Uhlemann, A. Gebert, J. Eckert, "Electrochemical Deposition of Co(Cu)/Cu Multilayered Nanowires", *J. Electrochem. Soc.* **160**, D13 (2013).
687. K.K. Song, S. Pauly, B.A. Sun, J. Tan, M. Stoica, U. Kühn, J. Eckert, "Correlation Between the Microstructures and the Deformation Mechanisms of CuZr-Based Bulk Metallic Glass Composites", *AIP Advances* **3**, 012116 (2013).
688. J.W. Cui, M. Calin, J. Eckert, Z.F. Zhang, "Tensile Fracture Dynamics and Intrinsic Plasticity of Metallic Glasses", *Appl. Phys. Lett.* **102**, 031908 (2013).
689. J. Torrens-Serra, M. Stoica, J. Bednarčik, J. Eckert, S. Kustov, "Elastic and Anelastic Properties Close to the Curie Temperature of Fe-Based Bulk Metallic Glass", *Appl. Phys. Lett.* **102**, 041904 (2013).
690. S. Pauly, L. Löber, R. Petters, M. Stoica, S. Scudino, U. Kühn, J. Eckert, "Processing Metallic Glasses by Selective Laser Melting", *Mater. Today* **16**, 37 (2013).
691. S.A. Rounaghi, H. Eshghi, A.R. Kiani Rashid, J. Vahdati Khaki, M. Samadi Khoshkhoo,

S. Scudino, J. Eckert, "Synthesis of Nanostructured AlN by Solid State Reaction of Al and Diaminomaleonitrile", *J. Solid State Chemistry* **198**, 542 (2013).

692. K. Sakaushi, E. Hosono, G. Nickerl, T. Gemming, H.S. Zhou, S. Kaskel, J. Eckert, "Aromatic Porous-Honeycomb Electrodes for a Sodium-Organic Energy Storage Device", *Nat. Commun.* **4**, 1485 (2013).
693. G.Z. Ma, B.A. Sun, S. Pauly, K.K. Song, U. Kühn, D. Chen, J. Eckert, "Effect of Ti Substitution on Glass-Forming Ability and Mechanical Properties of a Brittle Cu-Zr-Al Bulk Metallic Glass", *Mater. Sci. Eng. A* **563**, 112 (2013).
694. P.F. Gostin, A. Helth, A. Voss, R. Sueptitz, M. Calin, J. Eckert, A. Gebert, "Surface Treatment, Corrosion Behavior, and Apatite-Forming Ability of Ti-45Nb Implant Alloy", *J. Biomed. Mater. Res. Part B* **101**, 269 (2013).
695. A.H. Taghvaei, M. Stoica, M.S. Khoshkhoo, I. Kaban, J. Bednarčik, P. Jóvári, K. Janghorban, J. Eckert, "DSC, XRD and TEM Characterization of Glassy $Co_{40}Fe_{22}Ta_8B_{30}$ Alloy with Very High Thermal Stability", *Mater. Lett.* **93**, 322 (2013).
696. Y. Zhang, N. Mattern, J. Eckert, "Strong Correlation of Atomic Thermal Motion in the First Coordination Shell of a Cu-Zr Metallic Glass", *Appl. Phys. Lett.* **102**, 081901 (2013).
697. M. Calin, A. Gebert, A.C. Ghinea, P.F. Gostin, S. Abdi, C. Mickel, J. Eckert, "Designing Biocompatible Ti-Based Metallic Glasses for Implant Applications", *Mater. Sci. Eng. C* **33**, 875 (2013).
698. A. Waske, B. Schwarz, N. Mattern, J. Eckert, "Magnetocaloric (Fe-B)-Based Amorphous Alloys", *J. Magn. Magn. Mater.* **329**, 101 (2013).
699. S. Niyomsoan, P. Gargarella, M. Stoica, M. S. Khoshkoo, U. Kühn, J. Eckert, "Phase Formation in Rapid Solidified Ag-Y Alloys", *J. Appl. Phys.* **113**, 104308 (2013).
700. Q. Luo, B. Schwarz, N. Mattern, J. Shen, J. Eckert, "Roles of Hydrogenation, Annealing and Field in the Structure and Magnetic Entropy Change of Tb-Based Bulk Metallic Glasses", *AIP Advances* **3**, 032134 (2013).
701. K. Kosiba, P. Gargarella, S. Pauly, U. Kühn, J. Eckert, "Predicted Glass-Forming Ability of Cu-Zr-Co Alloys and their Crystallization Behavior", *J. Appl. Phys.* **113**, 123505 (2013).
702. C.J. Li, J. Tan, X.K. Zhu, Y. Zhang, M. Stoica, U. Kühn, J. Eckert, "On the Transformation-Induced Work-Hardening Behavior of $Zr_{47.5}Co_{47.5}Al_5$ Ultrafine-Grained Alloy", *Intermetallics* **35**, 116 (2013).
703. J. He, N. Mattern, J. Tan, J.Z. Zhao, I. Kaban, Z. Wang, L. Ratke, D.H. Kim, W.T. Kim, J. Eckert, "A Bridge from Monotectic Alloys to Liquid-Phase-Separated Bulk Metallic Glasses: Design, Microstructure and Phase Evolution", *Acta Mater.* **61**, 2102 (2013).
704. I. Kaban, P. Jóvári, V. Kokotin, O. Shuleshova, B. Beuneu, K. Saksl, N. Mattern, J. Eckert, A.L. Greer, "Local Atomic Arrangements and their Topology in Ni-Zr and Cu-Zr Metallic Glasses", *Acta Mater.* **61**, 2509 (2013).
705. K. Pinkert, L. Giebeler, M. Herklotz, S. Oswald, J. Thomas, A. Meier, L. Borchardt, S. Kaskel, H. Ehrenberg, J. Eckert, "Functionalised Porous Nanocomposites: A Multidisciplinary Approach to Investigate Designed Structures for Supercapacitor Applications", *J. Mater. Chem. A* **1**, 4904 (2013).
706. N. Brun, K. Sakaushi, L. Yu, L. Giebeler, J. Eckert, M.M. Titirici, "Hydrothermal Carbon-Based Nanostructured Hollow Spheres as Electrode Materials for High-Power Lithium-Sulfur Batteries", *Phys. Chem. Chem. Phys.* **15**, 6080 (2013).
707. K. Zhuravleva, S. Scudino, M. Samadi Khoshkhoo, A. Gebert, M. Calin, L. Schultz, J. Eckert, "Mechanical Alloying of β-Type Ti-Nb for Biomedical Applications", *Adv. Eng. Mater.* **15**, 262 (2013).
708. J. Torrens-Serra, P. Bruna, M. Stoica, S. Roth, J. Eckert, "Glass Forming Ability, Thermal Stability, Crystallization and Magnetic Properties of $[(Fe,Co,Ni)]_{0.75}Si_{0.05}B_{0.20}]Nb_4Zr_1$ Metallic Glass", *J. Non-Cryst. Solids* **367**, 30 (2013).
709. K. Zhuravleva, A. Chivu, A. Teresiak, S. Scudino, M. Calin, L. Schultz, J. Eckert, A. Gebert, "Porous Low Modulus Ti40Nb Compacts with Electrodeposited Hydroxyapatite Coating for Biomedical Applications", *Mater. Sci. Eng. C* **33**, 2280 (2013).
710. D. Mikhailova, A. Thomas, S. Oswald, W. Gruner, N.N. Bramnik, A.A. Tsirlin, D.M. Trots,

A. Senyshyn, J. Eckert, H. Ehrenberg, "Structural Changes in the $LiCrMnO_4$ Cathode Material during Electrochemical Li Extraction and Insertion", *J. Electrochem Soc.* **160**, A3082 (2013).

711. A. Helth, U. Siegel, U. Kühn, T. Gemming, W. Gruner, S. Oswald, T. Marr, J. Freudenberger, J. Scharnweber, C.-G. Oertel, W. Skrotzki, L. Schultz, J. Eckert, "Influence of Boron and Oxygen on the Microstructure and Mechanical Properties of High Strength $Ti_{66}Nb_{13}Cu_8Ni_{6.8}Al_{6.2}$ Alloys", *Acta Mater.* **61**, 3324 (2013).
712. T. Marr, J. Freudenberger, A. Kauffmann, J. Romberg, I. Okulov, R. Petters, J. Scharnweber, A. Eschke, C.-G.Oertel, U. Kühn, J. Eckert, W. Skrotzki, L. Schultz, "Processing of Intermetallic Titanium Aluminide Wires", *Metals* **3**, 188 (2013).
713. B.A. Sun, S. Pauly, J. Hu, W.H. Wang, U. Kühn, J. Eckert, "Origin of Intermittent Plastic Flow and Instability of Shear Band Sliding in Bulk Metallic Glasses", *Phys. Rev. Lett.* **110**, 225501 (2013).
714. C.J. Li, J. Tan, G. Wang, J. Bednarčik, X.K. Zhu, Y. Zhang, M. Stoica, U. Kühn, J. Eckert, "Enhanced Strength and Transformation-Induced Plasticity in Rapidly Solidified Zr-Co-(Al) Alloys", *Scripta Mater.* **68**, 897 (2013).
715. L. Löber, C. Flache, R. Petters, U. Kühn, J. Eckert, "Comparison of Different Post Processing Technologies for SLM Generated 316L Steel Parts", *Rapid Prototyping Journal* **19**, 173 (2013).
716. F. Ali, S. Scudino, S.M. Gorantla, V.C. Srivastava, H.R. Shahid, V. Uhlenwinkel, M. Stoica, G. Vaughan, N.K. Mukhopadhyay, J. Eckert, "Mechanically Driven Phase Transformation in Single Phase $Al_{62.5}Cu_{25}Fe_{12.5}$ Quasi-Cystals: Effect of Milling Intensity", *Acta Mater.* **61**, 3819 (2013).
717. K. Sakaushi, J. Thomas, S. Kaskel, J. Eckert, "Aqueous Solution Process for the Synthesis and Assembly of Nanostructured One-Dimensonal α-MoO_3 Electrode Materials", *Chem. Mater.* **25**, 2557 (2013).
718. D. Wadewitz, W. Gruner, M. Herklotz, M. Klose, L. Giebeler, A. Voß, J. Thomas, T. Gemming, J. Eckert, H. Ehrenberg, "Investigation of Copper-Cobalt-Oxides as Model Systems for Composite Interactions in Conversion-Type Electrodes for Lithium-Ion Batteries", *J. Electrochem. Soc.* **160**, A1333 (2013).
719. J.H. Han, N. Mattern, I. Kaban, D. Holland-Moritz, J. Bednarčik, R. Nowak, N. Sobczak, D.H. Kim, J. Eckert, "Phase Separation in Ternary Co-Gd-Ti Liquids", *J. Phys.: Condensed Matter* **25**, 245104 (2013).
720. N. Mattern, J. Bednarčik, H.-P. Liermann, J. Eckert, "Structural Behavior of $Pd_{40}Cu_{30}Ni_{10}P_{20}$ Bulk Metallic Glass under High Pressure", *Intermetallics* **38**, 9 (2013).
721. Z.J. Yan, W.X. Hao, Y. Hu, K.K. Song, M. Stoica, S. Scudino, J. Eckert, "Evidence for Viscous Flow Nature in $Zr_{60}Al_{15}Ni_{25}$ Metallic Glass Subjected to Cold Rolling", *Appl. Phys. Lett.* **103**, 021907 (2013).
722. S.Y. Kim, S.J. Kim, S.S. Jee, J.M. Park, K.H. Park, S.C. Park, E.A. Cho, J.H. Lee, I.Y. Song, S.M. Lee, I.T. Han, K.R. Lim, W.T. Kim, J.C. Park, J. Eckert, D.H. Kim, E.-S. Lee, "Capillary Flow of Amorphous Metal for High Performance Electrode", *Sci. Reports* **3**, 2185 (2013).
723. C. Bonatto Minella, I. Lindemann, P. Nolis, A. Kießling, M.D. Baró, M. Klose, L. Giebeler, B. Rellinghaus, J. Eckert, L. Schultz, O. Gutfleisch, "$NaAlH_4$ Confined in Ordered Mesoporous Carbon", *Int. J. Hydrogen Energy* **38**, 8829 (2013).
724. J.D. Moore, D. Klemm, D. Lindackers, S. Grasemann, R. Träger, J. Eckert, L. Löber, S. Scudino, M. Katter, A. Barcza, K.P. Skokov, O. Gutfleisch, "Selective Laser Melting of $La(Fe, Co, Si)_{13}$ Geometries for Magnetic Refrigeration", *J. Appl. Phys.* **114**, 043907 (2013).
725. K.R. Lim, J.M. Park, S.S. Jee, S.Y. Kim, S.J. Kim, E.-S. Lee, W.T. Kim, A. Gebert, J. Eckert, D.H. Kim, "Effect of Thermal Stability of the Amorphous Substrate on the Amorphous Oxide Growth on Zr-Al-(Cu, Ni) Metallic Glass Surfaces", *Corr. Sci.* **73**, 1 (2013).
726. M. Herklotz, F. Scheiba, M. Hinterstein, K. Nikolowski, M. Knapp. A.-C. Dippel, L. Giebeler, J. Eckert, H. Ehrenberg, "Advances in In Situ Powder Diffraction of Battery Materials: A Case Study of the New Beamline P02.1 at DESY Hamburg", *J. Appl. Cryst.* **46**, 1117 (2013).
727. L. Yu, N. Brun, K. Sakaushi, J. Eckert, M.M. Titirici, "Hydrothermal Nanocasting: Synthesis of Hierarchically Porous Carbon Monoliths and their Application in Lithium-Sulfur Batteries", *Carbon* **61**, 245 (2013).
728. N. Mattern, J.H. Han, O. Fabrichnaya, M. Zinkevich, W. Löser, J. Werner, R. Nowak, I. Kaban,

O. Shuleshova, D. Holland-Moritz, J. Bednarčik, N. Sobczak, J. Eckert, "Experimental and Thermodynamic Assessment of the Gd-Ti System", *CALPHAD* **42**, 19 (2013).

729. K. Sakaushi, G. Nickerl, H.C. Kandpal, L. Cano-Cortés, T. Gemming, J. Eckert, S. Kaskel, J. van den Brink, "Polymeric Frameworks as Organic Semiconductors with Controlled Electronic Properties", *J. Phys. Chem. Lett.* **4**, 2977 (2013).
730. J. Wang, M.Q. Zeng, L.F. Tan, B.Y. Dai, Y. Deng, M.H. Rümmeli, H.T. Xu, Z.S. Li, S. Wang, L.M. Peng, J. Eckert, L. Fu, "High-Mobility Graphene on Liquid p-Block Elements by Ultra-Low-Loss CVD Growth", *Sci. Reports* **3**, 2670 (2013).
731. S. Scudino, J.Y. Kim, K.G. Prashanth, M.H. Lee, B.S. Kim, U. Kühn, J. Eckert, "Production of Customized Hybrid Porous Structures by Powder Metallurgy of $Ni_{59}Zr_{20}Ti_{16}Si_2Sn_3$ Glassy Powders", *J. Mater. Res.* **28**, 2490 (2013).
732. D.H. Kim, W.T. Kim, E.S. Park, N. Mattern, J. Eckert, "Phase Separation in Metallic Glasses", *Prog. Mater. Sci.* **58**, 1103 (2013).
733. M. Samadi Khoshkhoo, S. Scudino, J. Thomas, T. Gemming, H. Wendrock, J. Eckert, "Size Evaluation of Nanostructured Materials", *Mater. Lett.* **108**, 343 (2013).
734. G.Z. Ma, K.K. Song, B.A. Sun, Z.J. Yan, U. Kühn, D. Chen, J. Eckert, "Effect of Cold-Rolling on the Crystallization Behavior of a CuZr-based Bulk Metallic Glass", *J. Mater. Sci.* **48**, 6825 (2013).
735. M.H. Rümmeli, M.Q. Zhen, S. Melkhanova, S. Gorantla, A. Bachmatiuk, L. Fu, C.L. Yan, S. Oswald, R.G. Mendes D. Makarov, O.G. Schmidt, J. Eckert, "Insights into the Early Growth of Homogeneous Single-Layer Graphene over Ni-Mo Binary Substrates", *Chem. Mater.* **25**, 3880 (2013).
736. P. Ma, C.M. Zou, H.W. Wang, S. Scudino, K.K. Song, M. Samadi Khoshkhoo, Z.J. Wei, U. Kühn, J. Eckert, "Structure of GP Zones in Al-Si Matrix Composites Solidified under High Pressure", *Mater. Lett.* **109**, 1 (2013).
737. M. Gogebakan, C. Kursun, J. Eckert, "Formation of New Cu-Based Nanocrystalline Powders by Mechanical Alloying Technique", *Powder Technol.* **247**, 172 (2013).
738. A.H. Taghvaei, M. Stoica, K.G. Prashanth, J. Eckert, "Fabrication and Characterization of $Co_{40}Fe_{22}Ta_8B_{30}$ Alloy with High Thermal Stability and Excellent Soft Magnetic Properties", *Acta Mater.* **61**, 6609 (2013).
739. M. Spindler, B. Uhlig, S.B. Menzel, C. Huck, T. Gemming, J. Eckert, "Local Temperature Determination in Power Loaded Surface Acoustic Wave Structures using Raman Spectroscopy", *J. Appl. Phys.* **114**, 164317 (2013).
740. R. Sueptitz, P. Dunne, K. Tschulik, M. Uhlemann, J. Eckert, A. Gebert, "Electrochemical Micromachining of Passive Electrodes", *Electrochim. Acta* **109**, 562 (2013).
741. M. Bönisch, M. Calin, T. Waitz, A. Panigrahi, M. Zehetbauer, A. Gebert, W. Skrotzki, J. Eckert, "Thermal Stability and Phase Transformations of Martensitic Ti-Nb Alloys", *Sci. Tech. Adv. Mater.* **14**, 055004 (2013).
742. N.K. Mukhopadhyay, F. Ali, S. Scudino, M. Samadi Khoshkhoo, M. Stoica, V.C. Srivastava, V. Uhlenwinkel, G. Vaughan, C. Suryanarayana, J. Eckert, "Grain Size Softening Effect in $Al_{62.5}Cu_{25}Fe_{12.5}$ Nanoquasicrystals", *Appl. Phys. Lett.* **103**, 201914 (2013).
743. V.C. Srivastava, K.B. Surreddi, S. Scudino, M. Schowalter, V. Uhlenwinkel, A. Schulz, J. Eckert, A. Rosenauer H.-W. Zoch, "Microstructural Characteristics of Spray Formed and Heat Treated Al-(Y, La)-Co System", *J. Alloys & Compounds* **578**, 471 (2013).
744. M. Göttlicher, M. Rohnke, A. Helth, T. Leichtweiß, T. Gemming, A. Gebert, J. Eckert, J. Janek, "Controlled Surface Modification of Ti-40Nb Implant Alloy by Electrochemically Assisted Inductively Coupled RF Plasma Oxidation", *Acta Biomater.* **9**, 9201 (2013).
745. J. Romberg, J. Freudenberger, J. Scharnweber, U. Gaitzsch, T. Marr, A. Eschke, U. Kühn, C.-G. Oertel, I. Okulov, R. Petters, W. Skrotzki, J. Eckert, L. Schultz, "Metallographic Preparation of Aluminum-Titanium Composites", *Pract. Metallogr.* **50**, 739 (2013).
746. F. Thoss, L. Giebeler, J. Thomas, S. Oswald, K. Potzger, H. Reuther, H. Ehrenberg, J. Eckert, "Amorphous Li-Al-Based Compounds: A Novel Approach for Designing High Performance Electrode Materials for Li-Ion Batteries", *Inorganics* **1**, 14 (2013).
747. A.H. Taghvaei, M. Stoica, F. Mazaleyrat, K.G. Prashanth, M. Samadi Khoshkhoo, K. Janghorban, J. Eckert, "Microstructural and Magnetic Properties of Soft Magnetic Composites Based on Silicon Resin Coated $Co_{40}Fe_{22}Ta_8B_{30}$ Glassy Powders", *Intermetallics* **43**, 1 (2013).

748. J. Hufenbach, K. Kunze, L. Giebeler, T. Gemming, H. Wendrock, C. Baldauf, U. Kühn, W. Hufenbach, J. Eckert, "The Effect of Boron on Microstructure and Mechanical Properties of High-Strength Cast FeCrVC", *Mater. Sci. Eng. A* **586**, 267 (2013).
749. I.V. Okulov, S. Pauly, U. Kühn, P. Gargarella, T. Marr, J. Freudenberger, L. Schultz, J. Scharnweber, C.-G. Oertel, W. Skrotzki, J. Eckert, "Effect of Microstructure on the Mechanical Properties of As-Cast Ti-Nb-Al-Cu-Ni Alloys for Biomedical Application", *Mater. Sci. Eng. C* **33**, 4795 (2013).
750. M.H. Rümmeli, S. Gorantla, A. Bachmatiuk, J. Phieler, N. Geißler, I. Ibrahim, J. Pang, J. Eckert, "On the Role of Vapor Trapping for Chemical Vapor Deposition (CVD) Grown Graphene over Copper", *Chem. Mater.* **25**, 4861 (2013).
751. K. Zhuravleva, M. Bönisch, K.G. Prashanth, U. Hempel, A. Helth, T. Gemming, M. Calin, S. Scudino, L. Schultz, J. Eckert, A. Gebert, "Production of Porous β-Type Ti-40Nb Alloy for Biomedical Applications: Comparison of Selective Laser Melting and Hot Pressing", *Materials* **6**, 5700 (2013).
752. K.K. Song, S. Pauly, Z. Wang, U. Kühn, J. Eckert, "Effect of TaW Particles on the Microstructure and Mechanical Properties of Metastable $Cu_{47.5}Zr_{47.5}Al_5$ Alloys", *Mater. Sci. Eng. A* **587**, 372 (2013).
753. K.C. Kim, K.R. Lim, E.S. Lee, W.T. Kim, A. Gebert, J. Eckert, D.H. Kim, "Thermal Stability of Amorphous Oxide in $Al_{87}Ni_3Y_{10}$ Metallic Glass", *Corr. Sci.* **77**, 1 (2013).
754. A. Behler, N. Teichert, B. Dutta, A. Waske, T. Hickel, A. Auge, A. Hütten, J. Eckert, "Thickness Dependent Exchange Bias in Martensitic Epitaxial Ni-Mn-Sn Thin Films", *AIP Advances* **3**, 122112 (2013).
755. N.V. Kuratieva, M. Bànki, A.A. Tsirlin, J. Eckert, H. Ehrenberg, D. Mikhailova, "New Lithium Copper Borates with BO_3-Triangles: $Li_6CuB_4O_{10}$, $Li_3CuB_3O_7$, $Li_8Cu_7B_{14}O_{32}$ and $Li_2Cu_9B_{12}O_{28}$", *Inorg. Chem.* **52**, 13974 (2013).
756. A. Bachmatiuk, R.G. Mendes, C. Hirsch, C. Jähne, M.R. Lohe, J. Grothe, S. Kaskel, L. Fu, R. Klingeler, J. Eckert, P. Wick, M.H. Rümmeli, "Few-Layer Graphene Shells and Nonmagnetic Encapsulates: A Versatile and Nontoxic Carbon Nanomaterial", *ACS Nano* 7, 10552 (2013).
757. K. Sakaushi, E. Hosono, G. Nickerl, H.S. Zhou, S. Kaskel, J. Eckert, "Bipolar Porous Polymeric Frameworks for Low-Cost, High-Power, Long-Life All-Organic Energy Storage Devices", *J. Power Sources* **245**, 553 (2014).
758. A. Teresiak, M. Uhlemann, J. Thomas, J. Eckert, A. Gebert, "Influence of Co and Pd on the Formation of Nanostructured $LaMg_2Ni$ and its Hydrogen Reactivity", *J. Alloys & Compounds* **582**, 647 (2014).
759. K.G. Prashanth, S. Scudino, H.J. Klauss, K.B. Surreddi, L. Löber, Z. Wang, A.K. Chaubey, U. Kühn, J. Eckert, "Microstructure and Mechanical Properties of Al-12Si Produced by Selective Laser Melting: Effect of Heat Treatment", *Mater. Sci. Eng. A* **590**, 153 (2014).
760. H. Attar, M. Calin, L.C. Zhang, S. Scudino, J. Eckert, "Manufacture by Selective Laser Melting and Mechanical Behavior of Commercially Pure Titanium", *Mater. Sci. Eng. A* **593**, 170 (2014).
761. A. Helth, P.F. Gostin, S. Oswald, H. Wendrock, U. Wolff, U. Hempel, S. Arnhold, M. Calin, J. Eckert, A. Gebert, "Chemical Nanoroughening of Ti40Nb Surfaces and its Effect on Human Mesenchymal Stromal Cell Response", *J. Biomed. Mater. Res. Part B* **102**, 31 (2014).
762. M. Klose, I. Lindemann, C. Bonatto Minella, K. Pinkert, M. Zier, L. Giebeler, P. Nolis, M.D. Baró, S. Oswald, O. Gutfleisch, H. Ehrenberg, J. Eckert, "Unusual Oxidation Behavior of Light Metal Hydride by Tetrafhydrofurane Solvent Molecules Confined in Ordered Mesoporous Carbon", *J. Mater. Res.* **29**, 55 (2014).
763. S. Gorantla, A. Bachmatiuk, J.H. Hwang, H.A. Alsalman, J.Y. Kwak, T. Seyller, J. Eckert, M.G. Spencer, M.H. Rümmeli, "A Universal Transfer Route for Graphene", *Nanoscale* **6**, 889 (2014).
764. P. Ma, K.G. Prashanth, S. Scudino, Y. Jia, H.W. Wang, C.M. Zou, Z.J. Wei, J. Eckert, "Influence of Annealing on Mechanical Properties of Al-20Si Processed by Selective Laser Melting", *Metals* **4**, 28 (2014).
765. M. Oschatz, L. Borchardt, K. Pinkert, S. Thieme, M.R. Lohe, C. Hoffmannn, M. Benusch,

F.M. Wisser, C. Ziegler, L. Giebeler, M.H. Rümmeli, J. Eckert, A. Eychmüller, S. Kaskel, "Hierarchical Carbide-Derived Carbon Foams with Advanced Mesostructure as Versatile Electrochemical Energy Storage Material", *Adv. Energy Mater.* **4**, 1300645 (2014).

766. A.-K. Herrmann, P. Formanek, L. Borchardt, M. Klose, L. Giebeler, J. Eckert, S. Kaskel, N. Gaponik, A. Eychmüller, "Multimetallic Aerogels by Template-Free Self-Assembly of Au, Ag, Pt and Pd Nanoparticles", *Chem. Mater.* **26**, 1074 (2014).
767. J.Tan, G. Wang, Z.Y. Liu, J. Bednarčik, Y.L. Gao, Q.J. Zhai, N. Mattern, J. Eckert, "Correlation between Atomic Structure Evolution and Strength in a Bulk Metallic Glass at Cryogenic Temperature", *Sci. Reports* **4**, 3897 (2014).
768. A.E. Sarapulova, B. Bazarov, T. Namsaraeva, S. Dorzhieva, J. Bazarova, V. Grossman, A.A. Bush, I. Antonyshyn, M. Schmidt, A.M.T. Bell, M. Knapp, H. Ehrenberg, J. Eckert, D. Mikhailova, "Possible Piezoelectric Materials $CsMZr_{0.5}(MoO_4)_3$ (M = Al, Sc, V, Cr, Fe, Ga, In) and $CsCrTi_{0.5}(MoO_4)_3$: Structure and Physical Properties", *J. Phys. Chem. C* **118**, 1763 (2014).
769. L.-F. Zhu, M. Friák, A. Udyansky, D. Ma, A. Schlieter, U. Kühn, J. Eckert, J. Neugebauer, "Ab Initio Based Study of Finite-Temperature Structural, Elastic and Thermodynamic Properties of FeTi", *Intermetallics* **45**, 11 (2014).
770. P.F. Gostin, H. Wendrock, I. Schneider, M. Bleckmann, M. Stoica, U. Kühn, J. Eckert, "Microstructure and Mechanical Properties of a Newly Developed High Strength $Mg_{54.7}Cu_{11.5}Ag_{3.3}Gd_{5.5}Sc_{25}$ Alloy", *Intermetallics* **45**, 84 (2014).
771. R. Medda, A. Helth, P. Herre, D. Pohl, B. Rellinhghaus, N. Perschmann, S. Neubauer, H. Kessler, S. Oswald, J. Eckert, J.P. Spatz, A. Gebert, E.A. Cavalcanti-Adam, "Investigation of Early Cell-Surface Interactions of Human Mesenchymal Stem Cells on Nanopatterned β-Type Titanium-Niobium Alloy Surfaces", *Interface Focus* **4**, 20130046 (2014).
772. M. Stoica, S. Scudino, J. Bednarčik, I. Kaban, J. Eckert, "FeCoSiBNbCu Bulk Metallic Glass with Large Compressive Deformability Studied by Time-Resolved Synchrotron X-Ray Diffraction", *J. Appl. Phys.* **115**, 053520 (2014).
773. I.G. Gonzalez-Martinez, S.M. Gorantla, A. Bachmatiuk, V. Bezugly, J. Zhao, T. Gemming, J. Kunstmann, J. Eckert, G. Cuniberti, M.H. Rümmeli, "Room Temperature In Situ Growth of B/BO_x Nanowires and BO_x Nanotubes", *Nano Lett.* **14**, 799 (2014).
774. P. Ma, C.M. Zou, H.W. Wang, S. Scudino, B.G. Fu, Z.J. Wei, U. Kühn, J. Eckert, "Effects of High Pressure and SiC Content on Microstructure and Precipitation Kinetics of Al-20Si Alloy", *J. Alloys & Compounds* **586**, 639 (2014).
775. I. Kaban, P. Jóvári, A. Waske, M. Stoica, J. Bednarčik, B. Beuneu, N. Mattern, J. Eckert, "Atomic Stucture and Magnetic Properties of Fe-Nb-B Metallic Glasses", *J. Alloys & Compounds* **586 Suppl. 1**, S189 (2014).
776. Z. Wang, K.G. Prashanth, S. Scudino, A.K. Chaubey, D.J. Sordelet, W.W. Zhang, Y.Y. Li, J. Eckert, "Tensile Properties of Al Matrix Composite Reinforced with In Situ Devitrified $Al_{84}Gd_6Ni_7Co_3$ Glassy Particles", *J. Alloys & Compounds* **586 Suppl. 1**, S419 (2014).
777. K. Zhuravleva, M. Bönisch, S. Scudino, M. Calin, L. Schultz, J. Eckert, A. Gebert, "Phase Transformations in Ball-Milled Ti-40Nb and Ti-45Nb Powders upon Quenching from the β-Phase Region", *Powder Technology* **253**, 166 (2014).
778. P. Gargarella, S. Pauly, M. Samadi Khoshkhoo, U. Kühn, J. Eckert, "Phase Formation and Mechanical Properties of Ti-Cu-Ni-Zr Bulk Metallic Glass Composites", *Acta Mater.* **65**, 259 (2014).
779. N. Brun, K. Sakaushi, J. Eckert, M.M. Titirici, "Carbohydrate-Derived Nano-Architectures: On a Synergistic Effect Toward an Improved Performance in Lithium-Sulfur Batteries", *ACS Sustainable Chem. Eng.* **2**, 126 (2014).
780. I.V. Okulov, U. Kühn, T. Marr, J. Freudenberger, L. Schultz, C.-G. Oertel, W. Skrotzki, J. Eckert, "Deformation and Fracture Behavior of Composite Structured Ti-Nb-Al-Co(-Ni) Alloys", *Appl. Phys. Lett.* **104**, 071905 (2014).
781. K. Pinkert, M. Oschatz, L. Borchardt, M. Klose, M. Zier, W. Nickel, L. Giebeler, S. Oswald, S. Kaskel, J. Eckert, "Role of Surface Functional Groups in Ordered Mesoporous Carbide-Derived Carbon / Ionic Liquid Electrolyte Double-Layer Capacitor Interfaces", ACS Appl. Mater. Interfaces **6**, 2922 (2014).

782. K. Li, C. Song, L. Zhu, Q. Zhai, M. Stoica, J. Eckert, "Microstructure Evolution of Gas-Atomized Fe-6.5 wt% Si Droplets", *J. Mater. Res.* **29**, 527 (2014).
783. Z. Wang, K.G. Prashanth, S. Scudino, J. He, W.W. Zhang, Y.Y. Li, M. Stoica, G. Vaughan, D.J. Sordelet, J. Eckert, "Effect of Ball Milling on Structure and Thermal Stability of $Al_{84}Gd_6Ni_7Co_3$ Glassy Powders", *Intermetallics* **46**, 97 (2014).
784. S. Abdi, M. Samadi Khoshkhoo, O. Shuleshova, M. Bönisch, M. Calin, L. Schultz, J. Eckert, M.D. Baró, J. Sort, A. Gebert, "Effect of Nb Addition on Microstructure Evolution and Nanomechanical Properties of a Glass-Forming Ti-Zr-Si Alloy", *Intermetallics* **46**, 156 (2014).
785. M. Samadi Khoshkhoo, S. Scudino, J. Bednarčik, A. Kauffmann, H. Bahmanpour, J. Freudenberger, R. Scattergood, M.J. Zehetbauer, C.C. Koch, J. Eckert, "Mechanism of Nanostructure Formation in Ball-Milled Cu and Cu-3wt.%Zn Studied by X-ray Diffraction Line Profile Analysis", *J. Alloys & Compounds* **588**, 138 (2014).
786. J.H. Han, N. Mattern, U. Vainio, A. Shariq, S.W. Sohn, D.H. Kim, J. Eckert, "Phase Separation in $Zr_{56-x}Gd_xCo_{28}Al_{16}$ Metallic Glasses ($0 \leq x \leq 20$)", *Acta Mater.* **66**, 262 (2014).
787. Z. Wang, J. Tan, S. Scudino, B.A. Sun, R.T. Qu, J. He, K.G. Prashanth, W.W. Zhang, Y.Y. Li, J. Eckert, "Mechanical Behavior of Al-Based Matrix Composites Reinforced with $Mg_{58}Cu_{28.5}Gd_{11}Ag_{2.5}$ Metallic Glasses", *Advanced Powder Technology* **25**, 635 (2014).
788. J. Zhao, Q.M. Deng, A. Bachmatiuk, S. Gorantla, A. Popov, J. Eckert, M.H. Rümmeli, "Free-Standing Single-Atom-Thick Iron Membranes Suspended in Graphene Pores", *Science* **343**, 1228 (2014).
789. F. Karnbach, M. Uhlemann, A. Gebert, J. Eckert, K. Tschulik, "Magnetic Field Templated Patterning of the Soft Magnetic Alloy CoFe", *Electrochim. Acta* **123**, 477 (2014).
790. F.A. Javid, N. Mattern, M. Samadi Khoshkhoo, M. Stoica, S. Pauly, J. Eckert, "Phase Formation of $Cu_{50-x}Co_xZr_{50}$ (x = 0 - 20 at.%) Alloys: Influence of Cooling Rate", *J. Alloys & Compounds* **590**, 428 (2014).
791. A. Meier, M. Weinberger, K. Pinkert, M. Oschatz, S. Paasch, L. Giebeler, H. Althues, E. Brunner, J. Eckert, S. Kaskel, "Silicon Oxycarbide-Derived Carbons from a Polyphenylsilsequioxane Precursor for Supercapacitor Applications", *Micropor. Mesopor. Mater.* **188**, 140 (2014).
792. A. Gebert, P.F. Gostin, R. Sueptitz, S. Oswald, S. Abdi, M. Uhlemann, J. Eckert, "Polarization Studies of Zr-Based Bulk Metallic Glasses for Electrochemical Machining", *J. Electrochem. Soc.* **161**, E66 (2014).
793. Z. Wang, J. Tan, B.A. Sun, S. Scudino, K.G. Prashanth, W.W. Zhang, Y.Y. Li, J. Eckert, "Fabrication and Mechanical Properties of Al-Based Metal Matrix Composites Reinforced with $Mg_{65}Cu_{20}Zn_5Y_{10}$ Metallic Glass Particles", *Mater. Sci. Eng. A* **600**, 53 (2014).
794. M. Luckabauer, U. Kühn, J. Eckert, W. Sprengel, "Specific Volume Study of a Bulk Metallic Glass Far Below Its Calorimetrically Determined Glass Transition Temperature", *Phys. Rev. B* **89**, 174113 (2014).
795. Y. Jia, F.Y. Cao, S. Scudino, P. Ma, H.C. Li, L. Yu, J. Eckert, J.F. Sun, "Microstructure and Thermal Expansion Behavior of Spray-Deposited Al-50Si", *Mater. Des.* **57**, 585 (2014).
796. K.G. Prashanth, R. Damodaram, S. Scudino, Z. Wang, K. Prasad Rao, J. Eckert, "Friction Welding of Al-12Si Parts Produced by Selective Laser Melting", *Mater. Des.* **57**, 632 (2014).
797. I.V. Okulov, U. Kühn, T. Marr, J. Freudenberger, I.V. Soldatov, L. Schultz, C.-G. Oertel, W. Skrotzki, J. Eckert, "Microstructure and Mechanical Properties of New Composite Structured Ti-V-Al-Cu-Ni Alloys for Spring Applications", *Mater. Sci. Eng. A* **603**, 76 (2014).
798. V. Brackmann, V. Hoffmann, A. Kauffmann, A. Helth, J. Thomas, H. Wendrock, J. Freudenberger, T. Gemming, J. Eckert, "Glow Discharge Plasma as a Surface Preparation Tool for Microstructure Investigations", *Mater. Charact.* **91**, 76 (2014).
799. F. Haag, D. Beitelschmidt, J. Eckert, K. Durst, "Influences of Residual Stresses on the Serrated Flow in Bulk Metallic Glasses under Elastostatic Four-Point Bending - A Nanoindentation and Atomic Force Microscopy Study", *Acta Mater.* **70,** 188 (2014).
800. P. Donnadieu, C. Pohlmann, S. Scudino, J.-J. Blandin, K.B. Surreddi, J. Eckert, "Deformation at Ambient and High Temperature of In Situ Laves Phases-Ferrite Composites", *Sci. Tech. Adv. Mater.* **15,** 034801 (2014).
801. A.H. Taghvaei, M. Stoica, J. Bednarčik, I. Kaban, H. Shakur Shahabi, M. Samadi Khoshkhoo,

K. Janghorban, J. Eckert, "Influence of Ball Milling on Atomic Structure and Magnetic Properties of $Co_{40}Fe_{22}Ta_8B_{30}$ Glassy Alloy", *Mater. Charact.* **92,** 96 (2014).

802. J. Zhao, M. Shaygan, J. Eckert, M. Meyyappan, M.H. Rümmeli, "A Growth Mechanism for Free-Standing Vertical Graphene", *Nano Lett.* **14,** 3064 (2014).
803. A. Eschke, J. Scharnweber, C.-G. Oertel, W. Skrotzki, T. Marr, J. Romberg, J. Freudenberger, L. Schultz, I. Okulov, U. Kühn, J. Eckert, "Texture Development in Ti/Al Filament Wires Produced by Accumulative Swaging and Bundling"*, Mater. Sci. Eng. A* **607**, 360 (2014).
804. M.H. Lee, B.S. Kim, D.H. Kim, R.T. Ott, F. Sansoz, J. Eckert, "Effect of Geometrical Constraint Condition on the Formation of Nanoscale Twins in the Ni-Based Metallic Glass Composite"*, Phil. Mag. Lett.* **94**, 351 (2014).
805. H. Turnow, H. Wendrock, S. Menzel, T. Gemming, J. Eckert, "Synthesis and Characterization of Amorphous Ni-Zr Thin Films", *Thin Solid Films* **561**, 48 (2014).
806. S. Pauly, K. Kosiba, P. Gargarella, B. Escher, K.K. Song, G. Wang, U. Kühn, J. Eckert, "Microstructural Evolution and Mechanical Behaviour of Metastable Cu-Zr-Co Alloys", *J. Mater. Sci. Technol.* **30**, 584 (2014).
807. G. Wang, S. Pauly, S. Gorantla, N. Mattern, J. Eckert, "Plastic Flow of a $Cu_{50}Zr_{45}Ti_5$ Bulk Metallic Glass Composite", *J. Mater. Sci. Technol.* **30**, 609 (2014).
808. H. Shakur Shahabi, S. Scudino, U. Kühn, J. Eckert, "Metallic Glass-Steel Composite with Improved Compressive Plasticity", *Mater. Des.* **59,** 241 (2014).
809. J.L. Ren, C. Chen, G. Wang, W.-S. Cheung, B.A. Sun, N. Mattern, S. Siegmund, J. Eckert, "Various Sizes of Sliding Event Bursts in the Plastic Flow of Metallic Glasses Based on a Spatiotemporal Dynamic Model", *J. Appl. Phys.* **116,** 033520 (2014).
810. R. Sueptitz, K. Tschulik, M. Uhlemann, J. Eckert, A. Gebert, "Retarding the Corrosion of Iron by Inhomogeneous Magnetic Fields", *Mater. Corros.* **65,** 803 (2014).
811. M. Bönisch, M. Calin, L. Giebeler, A. Helth, A. Gebert, W. Skrotzki, J. Eckert, "Composition-Dependent Magnitude of Atomic Shuffles in Ti-Nb Martensites"*, J. Appl. Cryst.* **47,** 1374 (2014).
812. A.H. Taghvaei, M. Stoica, I. Kaban, J. Bednarčik, J. Eckert, "Thermal and Soft Magnetic Properties of $Co_{40}Fe_{22}Ta_8B_{30}$ Glassy Powders: In-Situ X-Ray Diffraction and Magnetometry Studies", *J. Appl. Phys.* **116,** 054904 (2014).
813. M.H. Lee, E.S. Park, R.T. Ott, B.S. Kim, J. Eckert, "Evaluation of the Relationship Between the Effective Strain and the Springback Behavior during the Deformation of Metallic Glass Ribbons"*, Appl. Phys. Lett.* **105,** 0601906 (2014).
814. A.H. Taghvaei, M. Stoica, K.K. Song, K. Janghorban, J. Eckert, "Crystallization Kinetics of $Co_{40}Fe_{22}Ta_8B_{30}$ Glassy Alloy with High Thermal Stability and Soft Magnetic Properties", *J. Alloys & Compounds* **605**, 199 (2014).
815. H. Attar, M. Bönisch, M. Calin, L.C. Zhang, S. Scudino, J. Eckert, "Selective Laser Melting of In Situ Titanium-Titanium Boride Composites: Processing, Microstructure and Mechanical Properties", *Acta Mater.* **76,** 13 (2014).
816. M. Herklotz, F. Scheiba, R. Glaum, E. Mosymow, S. Oswald, J. Eckert, H. Ehrenberg, "Electrochemical Oxidation of Trivalent Chromium in a Phosphate Matrix: $Li_3Cr_2(PO_4)_3$ as Cathode Materials for Lithium Ion Batteries"*, Electrochim. Acta* **139,** 356 (2014).
817. N. Mattern, Y. Yokoyama, A. Mizuno, J.H. Han, O. Fabrichnaya, T. Harada, S. Kohara, J. Eckert, "Experimental and Thermodynamic Assessment of the Nd-Zr System", *CALPHAD* **46**, 103 (2014).
818. N. Mattern, Y. Yokoyama, A. Mizuno, J.H. Han, O. Fabrichnaya, T. Harada, S. Kohara, J. Eckert, "Experimental and Thermodynamic Assessment of the Ce-Zr System", *CALPHAD* **46**, 213 (2014).
819. L. Löber, F.P. Schimansky, U. Kühn, F. Pyczak, J. Eckert, "Selective Laser Melting of a Beta-Solidifying TNMB1 Titanium Aluminide Alloy"*, J. Mater. Process. Technol.* **214**, 1852 (2014).
820. H.Y. Jung, M. Stoica, S. Yi, D.H. Kim, J. Eckert, "Electrical and Magnetic Properties of Fe-Based Bulk Metallic Glass with Minor Co and Ni Addition"*, J. Magn. Magn. Mater.* **364**, 80 (2014).
821. A. Bachmatiuk, A. Dianat, F. Ortmann, H.T. Quang, M.O. Cichocka, I. Gonzalez-Martinez, L. Fu, B. Rellinghaus, J. Eckert, G. Cuniberti, M.H. Rümmeli, "Graphene Coatings for the Mitigation of Electron Stimulated Desorption and Fullerene Cap Formation"*, Chem. Mater.* **26**, 4998 (2014).
822. H. Attar, M. Bönisch, M. Calin, L.C. Zhang, K. Zhuravleva, A. Funk, S. Scudino, C. Yang,

J. Eckert, "Comparative Study of Microstructures and Mechanical Properties of In-Situ Ti-TiB Composites Produced by Selective Laser Melting, Powder Metallurgy and Casting Technologies", *J. Mater. Res.* **29**, 1941 (2014).

823. K.G. Prashanth, B. Debalina, Z. Wang, P.F. Gostin, A. Gebert, M. Calin. U. Kühn, M. Kamaraj, S. Scudino, J. Eckert, "Tribological and Corrosion Properties of Al-12Si Produced by Selective Laser Melting", *J. Mater. Res.* **29**, 2044 (2014).
824. F. Ali, S. Scudino, M.S. Anwar, R.N. Shahid, V.C. Srivastava, V. Uhlenwinkel, M. Stoica, G. Vaughan, J. Eckert, "Al-Based Metal Matrix Composites Reinforced with Al-Cu-Fe Quasicrystalline Particles: Strengthening by Interfacial Reaction", *J. Alloys & Compounds* **607**, 274 (2014).
825. N. Mattern, J.H. Han, K.G. Pradeep, K.C. Kim, E.M. Park, D.H. Kim, Y. Yokoyama, D. Raabe, J. Eckert, "Structure of Rapidly Quenched $(Cu_{0.5}Zr_{0.5})_{100-x}Ag_x$ Alloys (x = 0 – 40 at.%)", *J. Alloys & Compounds* **607**, 285 (2014).
826. A. Bachmatiuk, R.F. Abelin, H.T. Quang, B. Trzebicka, J. Eckert, M.H. Rümmeli, "Chemical Vapor Deposition of Twisted Bilayer and Few-Layer $MoSe_2$ Over SiO_x Substrates", *Nanotechnology* **25**, 365603 (2014).
827. G. Parzych, D. Mikhailova, S. Oswald, C. Täschner, M. Ritschel, A. Leonhardt, J. Eckert, H. Ehrenberg, "Improved Electrochemical Performance of $Cu_3B_2O_6$-Based Conversion Model Electrodes by Composite Formation with Different Carbon Additives", *J. Electrochem. Soc.* **161**, A1224 (2014).
828. M. Hinterstein, J. Rouquette, J. Haines, Ph. Papet, J. Glaum, M. Knapp, J. Eckert, M. Hoffman, "Structural Contribution to the Ferroelectric Fatigue in Lead Zirconate Titanate Ceramics", *Phys. Rev. B* **90**, 094113 (2014).
829. S.W. Lee, J. T. Kim, S.H. Hong, H.J. Park, J-Y. Park, N.S. Lee, Y. Seo, J.Y. Suh, J. Eckert, D.H. Kim, J.M. Park, K.B. Kim, "Micro-To-Nano-Scale Deformation Mechanisms of a Bimodal Ultrafine Eutectic Composite", *Sci. Reports* **4**, 6500 (2014).
830. M.O. Cichocka, J. Zhao, A. Bachmatiuk, H.T. Quang, S.M. Gorantla, I. G. Gonzalez-Martinez, L. Fu, J. Eckert, J.H. Warner, M.H. Rümmeli, "In Situ Observations of Pt Nanoparticles Coalescing Inside Carbon Nanotubes", *RSC Adv.* **4**, 49442 (2014).
831. B. Böhme, C. Bonatto Minella, F. Thoss, I. Lindemann, M. Rosenburg, C. Pistidda, K.T. Møller, T.R. Jensen, L. Giebeler, M. Baitinger, O. Gutfleisch, H. Ehrenberg, J. Eckert, Y. Grin, L. Schultz, "B1-Mobilstor: Materials for Sustainable Energy Storage Techniques – Lithium Containing Compounds for Hydrogen and Electrochemical Energy Storage", *Adv. Eng. Mater.* **16**, 1189 (2014).
832. S. Dörfler, K. Pinkert, M. Weiser, C. Wabnitz, A. Goldberg, B. Ferse, L. Giebeler, H. Althues, M. Schneider, J. Eckert, A. Michaelis, E. Beyer, S. Kaskel, "D2 Enertrode: Production Technologies and Component Integration of Nanostructured Carbon Electrodes for Energy Technology – Functionalized Carbon Materials for Efficient Electrical Energy Supply", *Adv. Eng. Mater.* **16**, 1196 (2014).
833. W. Skrotzki, A. Eschke, J. Romberg, J. Scharnweber, T. Marr, R. Petters, I. Okulov, C.-G. Oertel, J. Freudenberger, U. Kühn, L. Schultz, J. Eckert, "Processing of High Strength Light-Weight Metallic Composites", *Adv. Eng. Mater.* **16**, 1208 (2014).
834. I.V. Okulov, U. Kühn, J. Romberg, I.V. Soldatov, J. Freudenberger, L. Schultz, A. Eschke, C.-G. Oertel, W. Skrotzki, J. Eckert, "Mechanical Behavior and Tensile / Compressive Strength Asymmetry of Ultrafine Structured Ti-Nb-Ni-Co-Al Alloys with Bi-Modal Grain Size Distribution", *Mater. Des.* **62**, 14 (2014).
835. I.V. Okulov, M. Bönisch, U. Kühn, W. Skrotzki, J. Eckert, "Significant Tensile Ductility and Toughness in an Ulrafine-Structured $Ti_{68.8}Nb_{13.6}Co_6Cu_{5.1}Al_{6.5}$ Bi-Modal Alloy", *Mater. Sci. Eng. A* **615**, 457 (2014).
836. A.K. Chaubey, S. Scudino, M. Samadi Khoshkhoo, K.G. Prashanth, N.K. Mukhopadhyay, B.K. Mishra, J. Eckert, "High-Strength Ultrafine Grain Mg-7.4%Al Alloy Synthesized by Consolidation of Mechanically Alloyed Powders", *J. Alloys & Compounds* **610**, 456 (2014).
837. A. Eschke, W. Zinn, T. Marr, C.-G. Oertel, W. Skrotzki, L. Schultz, J. Eckert, "Local Stress Gradients in Ti/Al Composite Wires Determined by Two-Dimensional X-Ray Micro Diffraction", *Mater. Sci. Eng. A* **616**, 44 (2014).

838. S. Oswald, P.-F. Gostin, A. Helth, S. Abdi, L. Giebeler, H. Wendrock, M. Calin, J. Eckert, A. Gebert, "XPS andAES Sputter-Depth Profiling at Surfaces of Biocompatible Passivated Ti-Based Alloys: Concentration Quantification Considering Chemical Effects", *Surf. Interface Anal.* **46**, 683 (2014).
839. U. Vogel, S. Oswald, T. Gemming, J. Eckert, "Analysis of Surface Pre-Treatment for SAW-Substrate Material ($LiNbO_3$) and Deposited Films of Ta/Ti using ARXPS", *Surf. Interface Anal.* **46**, 1033 (2014).
840. S. Oswald, U. Vogel, J. Eckert, "ARXPS Measurement Simulation for Improved Data Interpretation at Complex Ta/Li-Niobate Interfaces", *Surf. Interface Anal.* **46**, 1094 (2014).
841. J. Zhao, Q.M. Deng, S.M. Advoshenko, L. Fu, J. Eckert, M.H. Rümmeli, "Direct In Situ Observations of Single Fe Atom Catalytic Processes and Anomalous Diffusion at Graphene Edges", *PNAS* **111**, 15641 (2014).
842. A.H. Taghvaei, H. Shakur Shahabi, J. Bednarčik, J. Eckert, "Fabrication and Characterization of $Co_{40}Fe_{22}Ta_{8-x}Y_xB_{30}$ (x = 0. 2.5, 4, 6 and 8) Metallic Glasses with High Thermal Stability and Good Soft Magnetic Properties", *J. Appl. Phys.* **116**, 184904 (2014).
843. M. Zier, F. Scheiba, S. Oswald, J. Thomas, D. Goers, T. Scherer, M. Klose, H. Ehrenberg, J. Eckert, "Lithium Dendrite and Solid Electrolyte Interphase Investigation Using OsO_4", *J. Power Sources* **266**, 198 (2014).
844. M. Calin, A. Helth, J.J. Gutierrez Moreno, M. Bönisch, V. Brackmann, L. Giebeler, T. Gemming, C.E. Lekka, A. Gebert, R. Schnettler, J. Eckert, "Elastic Softening of β-Type Ti-Nb Alloys by Indium (In) Additions", *J. Mech. Behav. Biomed. Mater.* **39**, 162 (2014).
845. M. Klose, K. Pinkert, M. Zier, M. Uhlemann, F. Wolke, T. Jaumann, P. Jehnichen, D. Wadewitz, S. Oswald, J. Eckert, L. Giebeler, "Hollow Carbon Nano-Onions with Hierarchical Porosity Derived from Commercial Metal Organic Framework", *Carbon* **79**, 302 (2014).
846. G.K. Rane, S. Menzel, T. Gemming, J. Eckert, "Microstructure, Electrical Resistivity and Stresses in Sputter Deposited W and Mo Films and the Influence of the Interface on Bilayer Properties", *Thin Solid Films* **571**, 1 (2014).
847. K. Zhuravleva, R. Müller, L. Schultz, J. Eckert, A. Gebert, M. Bobeth, G. Cuniberti, "Determination of the Young's Modulus of Porous β-Type Ti-40Nb by Finite Element Analysis", *Mater. Des.* **64**, 1 (2014).
848. J.M. Park, K.R. Lim, E.S. Park, S. Hong, K.H. Park, J. Eckert, D.H. Kim, "Internal Structural Evolution and Enhanced Tensile Plasticity of Ti-Based Bulk Metallic Glass and Composite via Cold Rolling", *J. Alloys & Compounds* **615 Suppl. 1**, S113 (2014).
849. I. Kaban, K. Khalouk, F. Gasser, J.-G. Gasser, J. Bednarčik, O. Shuleshova, I. Okulov, T. Gemming, N. Mattern, J. Eckert, "In Situ Studies of Temperature-Dependent Behaviour and Crystallisation of $Ni_{36.5}Pd_{36.5}P_{27}$ Metallic Glass", *J. Alloys & Compounds* **615 Suppl. 1**, S208 (2014).
850. D. Markó, K.G. Prashanth, S. Scudino, Z. Wang, N. Ellendt, V. Uhlenwinkel, J. Eckert, "Al-Based Metal Matrix Composites Reinforced with $Fe_{49.9}Co_{35.1}Nb_{7.7}B_{4.5}Si_{2.8}$ Glassy Powder: Mechanical Behavior under Tensile Loading", *J. Alloys & Compounds* **615 Suppl. 1**, S382 (2014).
851. R.D. Cava, C. Bolfarini, C.S. Kiminami, E.M. Mazzer, W.J. Botta Filho, P. Gargarella, J. Eckert, "Spray Forming of Cu-11.85Al-3.2Ni-3Mn (wt%) Shape Memory Alloy", *J. Alloys & Compounds* **615 Suppl. 1**, S602 (2014).
852. T. Schied, H. Ehrenberg, J. Eckert, S. Oswald, M. Hoffmann, F. Scheiba, "An O_2 Transport Study in Porous Materials within the Li-O_2-System", *J. Power Sources* **269**, 825 (2014).
853. F. Thoss, L. Giebeler, K. Weißer, J. Feller, J. Eckert, "Preparation and Cyclic Performance of Iron or Iron Oxide Containing Amorphous Al-Li Alloys as Electrodes", *Inorganics* **2**, 674 (2014).
854. M.L. Martine, G. Parzych, F. Thoss, L. Giebeler, J. Eckert, "Na-Sb-Sn Ternary Phase Diagram at Room Temperature for Potential Anode Materials in Sodium-Ion Batteries", *Solid State Ionics* **268**, 261 (2014).
855. N. Mattern, Y. Yokoyama, A. Mizuno, J.H. Han, O. Fabrichnaya, T. Harada, S. Kohara, J. Eckert, "Experimental and Thermodynamic Assessment of the Nd-Ti System", *CALPHAD* **47**, 136 (2014).
856. P. Gargarella, S. Pauly, M. Stoica, G.B.M. Vaughan, C.R. Moreira Afonso, U. Kühn, J. Eckert, "Structural Evolution in Ti-Cu-Ni Metallic Glasses during Heating", *APL Mater.* **3**, 016101 (2015).

857. P. Gargarella, S. Pauly, M.F. de Oliveira, U. Kühn, J. Eckert, "Glass Formation in the Ti-Cu System with and without Si Additions", *J. Alloys & Compounds* **618**, 413 (2015).
858. J. He, N. Mattern, I. Kaban, F.P. Dai, K.K. Song, Z.J. Yan, J.Z. Zhao, D.H. Kim, J. Eckert, "Enhancement of Glass-Forming Ability and Mechanical Behavior of Zirconium-Lanthanide Two-Phase Bulk Metallic Glasses", *J. Alloys & Compounds* **618**, 795 (2015).
859. Z.J. Wei, P. Ma, H.W. Wang, C.M. Zou, S. Scudino, K.K. Song, K.G. Prashanth, W. Jiang, J. Eckert, "The Thermal Expansion Behaviour of SiC_p/Al-20Si Composites Solidified under High Pressure", *Mater. Des.* **65**, 387 (2015).
860. M. Samadi Khoshkhoo, S. Scudino, T. Gemming, J. Thomas, J. Freudenberger, M. Zehetbauer, C.C. Koch, J. Eckert, "Nanostructure Formation Mechanism During In-Situ Consolidation of Copper by Room Temperature Ball Milling", *Mater. Des.* **65**, 1083 (2015).
861. T. Jaumann, M. Herklotz, M. Klose, K. Pinkert, S. Oswald, J. Eckert, L. Giebeler, "Tailoring Hollow Silicon-Carbon Nanocomposites as High-Performance Anodes in Lithium-Based Batteries through Economical Chemistry", *Chem. Mater.* **27**, 37 (2015).
862. M. Krautz, A. Funk, K.P. Skokov, T. Gottschall, J. Eckert, O. Gutfleisch, A. Waske, "A New Type of $La(Fe, Si)_{13}$-Based Magnetocaloric Composite with Amorphous Metallic Matrix", *Scripta Mater.* **95**, 50 (2015).
863. S. Scudino, H. Shakur Shahabi, M. Stoica, I. Kaban, B. Escher, U. Kühn, G.B.M Vaughan, J. Eckert, "Structural Features of Plastic Deformation in Bulk Metallic Glasses", *Appl. Phys. Lett.* **106**, 031903 (2015).
864. A.H. Taghvaei, H. Shakur Shahabi, J. Bednarčik, J. Eckert, "Inhomogeneous Thermal Expansion of Metallic Glasses in Atomic-Scale Studied by In-Situ Synchrotron X-ray Diffraction", *J. Appl. Phys.* **117**, 044902 (2015).
865. P.F. Gostin, D. Eigel, D. Grell, J. Eckert, E. Kerscher, A. Gebert, "Comparing the Pitting Corrosion Behavior of Prominent Zr-Based Bulk Metallic Glasses", *J. Mater. Res.* **30**, 233 (2015).
866. Q. Luo, G. Garbarino, B.A. Sun, D.W. Fan, Y. Zhang, Z. Wang, Y.J. Sun, J. Jiao, X.D. Li, P.S. Li, N. Mattern, J. Eckert, J. Shen, "Hierarchical Densification and Negative Thermal Expansion in Ce-Based Metallic Glass under High Pressure", *Nat. Commun.* **6**, 5703 (2015).
867. A. Bachmatiuk, J. Zhao, S.M. Gorantla, I.G. Gonzalez Martinez, J. Wiedermann, C.G. Lee, J. Eckert, M.H. Rümmeli, "Low Voltage Transmission Electron Microscopy of Graphene", *Small* **11**, 515 (2015).
868. A.K. Chaubey, S. Scudino, K.G. Prashanth, J. Eckert, "Microstructure and Mechanical Properties of Mg-Al-Based Alloy Modified with Cerium", *Mater. Sci. Eng. A* **625**, 46 (2015).
869. H. Attar, L. Löber, A. Funk, M. Calin, L.C. Zhang, K.G. Prashanth, S. Scudino, Y.S. Zhang, J. Eckert, "Mechanical Behavior of Porous Commercially Pure Ti and Ti-TiB Composite Materials Manufactured by Selective Laser Melting", *Mater. Sci. Eng. A* **625**, 350 (2015).
870. A. Waske, L. Giebeler, B. Weise, A. Funk, M. Hinterstein, M. Herklotz, K.P. Skokov, S. Fähler, O. Gutfleisch, J. Eckert, "Asymmetric First-Order Transition and Interlocked Particle State in Magnetocaloric $La(FeSi)_{13}$", *Phys. Stat. Sol. - Rapid Research Letters* **9**, 136 (2015).
871. H. Attar, K.G. Prashanth, A.K. Chaubey, M. Calin, L.C. Zhang, S. Scudino, J. Eckert, "Comparison of Wear Properties of Commercially Pure Titanium Prepared by Selective Laser Melting and Casting Processes", *Mater. Lett.* **142**, 38 (2015).
872. M. Bönisch, M. Calin, J. van Humbeeck, W. Skrotzki, J. Eckert, "Factors Influencing the Elastic Moduli, Reversible Strains and Hysteresis Loops in Martensitic Ti-Nb Alloys", *Mater. Sci. Eng. C* **48**, 511 (2015).
873. J. Balach, T. Jaumann, M. Klose, S. Oswald, J. Eckert, L. Giebeler, "Mesoporous Carbon Interlayers with Tailored Pore Volume as Polysulfide Reservoir for High-Energy Lithium-Sulfur Batteries", *J. Phys. Chem. C* **119**, 4580 (2015).
874. Z.J. Yan, Y. Hu, K.K. Song, F.P. Dai, J. He, J. Eckert, "Vickers-Indentation-Induced Crystallization in a Metallic Glass", *Appl. Phys. Lett.* **106**, 101909 (2015).
875. I.V. Okulov, H. Wendrock, A.S. Volegov, H. Attar, U. Kühn, W. Skrotzki, J. Eckert, "High Strength Beta Titanium Alloys: New Design Approach", *Mater Sci. Eng. A* **628**, 297 (2015).
876. R.G. Mendes, B. Koch, A. Bachmatiuk, X. Ma, S. Sanchez, C. Damm, O.G. Schmidt, T. Gemming, J. Eckert, M.H. Rümmeli, "A Size Dependent Evaluation of the Cytotoxity and Uptake of Nanographene Oxide", *J. Mater. Chem. B* **3**, 2522 (2015).

877. H.Y. Jung, M. Stoica, S.H. Yi, D.H. Kim, J. Eckert, "Influence of Al on Glass Forming Ability and Nanocrystallization Behavior of Cast-Iron Based Bulk Amorphous Alloy", *J. Mater. Res.* **30**, 818 (2015).
878. A. Panigrahi, M. Bönisch, T. Waitz, E. Schafler, M. Calin, J. Eckert, W. Skrotzki, M. Zehetbauer, "Phase Transformations and Mechanical Properties of Biocompatible Ti-16.1Nb Processed by Severe Plastic Deformation", *J. Alloys & Compounds* **628**, 434 (2015).
879. K.G. Prashanth, H. Shakur Shahabi, H. Attar, V.C. Srivastava, N. Ellendt, V. Uhlenwinkel, J. Eckert, S. Scudino, "Production of High Strength $Al_{85}Nd_8Ni_5Co_2$ Alloy by Selective Laser Melting", *Addit. Manuf.* **6**, 1 (2015).
880. L. Xi, I. Kaban, R. Nowak, B. Korpala, G. Bruzda, N. Sobczak, N. Mattern, J. Eckert, "High-Temperature Wetting and Interfacial Interaction between Liquid Al and TiB_2 Ceramic", *J. Mater. Sci.* **50**, 2682 (2015).
881. L.F. Tan, M.Q. Zeng, Q. Wu, L.F. Chen, J. Wang, T. Zhang, J. Eckert, M.H. Rümmeli, L. Fu, "Direct Growth of Ultrafast Transparent Single-Layer Graphene Defoggers", *Small* **11**, 1840 (2015).
882. Ö. Balcı, K.G. Prashanth, S. Scudino, D. Ağaoğulları, İ. Duman, M.L. Öveçoğlu, V. Uhlenwinkel, J. Eckert, "Effect of Milling Time and the Consolidation Process on the Properties of Al Matrix Composites Reinforced with Fe-Based Glassy Particles", *Metals* **5**, 669 (2015).
883. B. Sarac, D. Sopu, E.M. Park, J.K. Hufenbach, S. Oswald, M. Stoica, J. Eckert, "Mechanical and Structural Investigation of Porous Bulk Metallic Glasses", *Metals* **5**, 920 (2015).
884. H. Schwab, K.G. Prashanth, L. Löber, U. Kühn, J. Eckert, "Selective Laser Melting of Ti-45Nb Alloy", *Metals* **5**, 686 (2015).
885. A. Gebert, S. Oswald, A. Helth, A. Voss, P.F. Gostin, M. Rohnke, J. Janek, M. Calin, J. Eckert, "Effect of Indium (In) on Corrosion and Passivity of a Beta-Type Ti-Nb Alloy in Ringer's Solution", *Appl. Surf. Sci.* **335**, 213 (2015).
886. M. Madian, L. Giebeler, M. Klose, T. Jaumann, U. Uhlemann, A. Gebert, S. Oswald, N. Ismail, A. Eychmüller, J. Eckert, "Self-Organized TiO_2/CoO Nanotubes as Potential Anode Materials for Lithium Ion Batteries", *ACS Sustainable Chem. Eng.* **3**, 909 (2015).
887. Z. Wang, K.G. Prashanth, A.K. Chaubey, L. Löber, F.P. Schimansky, F. Pyczak, W.W. Zhang, S. Scudino, J. Eckert, "Tensile Properties of Al-12Si Matrix Composites Reinforced with Ti-Al-Based Particles", *J. Alloys & Compounds* **630**, 256 (2015).
888. A.H. Taghvaei, J. Bednarčik, J. Eckert, "Influence of Annealing on Microstructure and Magnetic Properties of Cobalt-Based Amorphous / Nanocrystalline Powders Synthesized by Mechanical Alloying", *J. Alloys & Compounds* **632**, 296 (2015).
889. D. Sopu, M. Stoica, J. Eckert, "Deformation Behavior of Metallic Glass Composites Reinforced with Shape Memory Nanowires Studied via Molecular Dynamics Simulations", *Appl. Phys. Lett.* **106**, 211902 (2015).
890. F.Y. Cao, Y.D. Jia, K.G. Prashanth, P. Ma, J.S. Liu, S. Scudino, F. Huang, J. Eckert, J.F. Sun, "Evolution of Microstructure and Mechanical Properties of As-Cast Al-50Si Alloy due to Heat Treatment and P Modifier Content", *Mater. Des.* **74**, 150 (2015).
891. H.Y. Jung, M. Stoica, S. Yi, D.H. Kim, J. Eckert, "Crystallization Kinetics of $Fe_{76.5-x}C_{6.0}Si_{3.3}B_{5.5}P_{8.7}Cu_x$ (x = 0, 0.5 and 1 at. pct) Bulk Amorphous Alloy", *Metall. Mater. Trans.* **46A**, 2415 (2015).
892. J.M. Park, K.H. Park, E.S. Park, S.-M. Hong, S.Y. Kim, S.S. Jee, E.S. Lee, S.J. Kim, K.B. Kim, D.H. Kim, J. Eckert, "Effect of Metallic Glass Particle Size on the Contact Resistance of Ag/Metallic Glass Electrode", *Metall. Mater. Trans.* **46A**, 2443 (2015).
893. J. Pang, A. Bachmatiuk, L. Fu, C.L. Yan, M.Q. Zeng, J. Wang, B. Trzebicka, T. Gemming, J. Eckert, M.H. Rümmeli, "Oxidation as a Means to Remove Surface Contaminants on Cu Foil Prior to Graphene Growth by Chemical Vapor Deposition", *J. Phys. Chem. C* **119**, 13363 (2015).
894. M. Bleckmann, J. Gleinig, J. Hufenbach, H. Wendrock, L. Giebeler, J. Zeisig, U. Diekmann, J. Eckert, U. Kühn, "Effect of Cooling Rate on the Microstructure and Properties of FeCrVC", *J. Alloys & Compounds* **634**, 200 (2015).
895. D. Mikhailova, A. Voss, S. Oswald, A.A. Tsirlin, M. Schmidt, A. Senyshyn, J. Eckert, H. Ehrenberg, "Lithium Insertion into Li_2MoO_4: Reversible Formation of $(Li_3Mo)O_4$ with a Disordered Rock-Salt Structure", *Chem. Mater.* **27**, 4485 (2015).

896. U. Vogel, E. Brachmann, S. Oswald, S. Menzel, T. Gemming, J. Eckert, "Evaluation of a Mobile Vaccuum Transfer System for In Vacuo XPS Analysis using As-Deposited Ti Thin Films", *Vacuum* **117**, 81 (2015).
897. K.C. Kim, S.H. Park, M.Y. Na, H.J. Chang, W.T. Kim, N. Mattern, J. Eckert, Y. Yokoyama, K.B. Kim, D.H. Kim, "Formation of Nano-Porous GeO_x by De-Alloying of an Al-Ge-Mn Amorphous Alloy", *Scripta Mater.* **104**, 49 (2015).
898. P.F. Gostin, D. Eigel, D. Grell, M. Uhlemann, E. Kerscher, J. Eckert, A. Gebert, "Stress Corrosion Cracking of a Zr-Based Bulk Metallic Glass", *Mater. Sci. Eng. A* **639**, 681 (2015).
899. P.F. Gostin, D. Eigel, D. Grell, M. Uhlemann, E. Kerscher, J. Eckert, A. Gebert, "Stress-Corrosion Interactions in Zr-Based Bulk Metallic Glasses", *Metals* **5**, 1262 (2015).
900. I.V. Okulov, I.V. Soldatov, M.F. Sarmanova, I. Kaban, T. Gemming, K. Edström, J. Eckert, "Flash Joule Heating for Ductilization of Metallic Glasses", *Nat. Commun.* **6**, 7932 (2015).
901. J. Pang, A. Bachmatiuk, L. Fu, R.G. Mendes, M. Libera, D. Placha, G.S. Martynková, B. Trzebicka, T. Gemming, J. Eckert, M.H. Rümmeli, "Direct Synthesis of Graphene from Adsorbed Organic Solvent Molecules over Copper", *RSC Adv.* **5**, 60884 (2015).
902. S. Scudino, M. Stoica, I. Kaban, K.G. Prashanth, G.B.M. Vaughan, J. Eckert, "Length Scale-Dependent Structural Relaxation in $Zr_{57.5}Ti_{7.5}Nb_5Cu_{12.5}Ni_{10}Al_{7.5}$ Metallic Glass", *J. Alloys & Compounds* **639**, 465 (2015).
903. A. Bachmatiuk, J. Boeckl, H. Smith, I. Ibrahim, T. Gemming, S. Oswald, W. Kazmierczak, D. Makarov, O.G. Schmidt, J. Eckert, L. Fu, M.H. Rümmeli, "Vertical Graphene Growth from Amorphous Carbon Films using Oxidizing Gases", *J. Phys. Chem. C* **119**, 17965 (2015).
904. F. Silze, G. Wiehl, I. Kaban, U. Kühn, J. Eckert, S. Pauly, "Effect of Ga on the Wettability of CuGa10 on 304L Steel", *Metall. Mater. Trans. B* **46**, 1647 (2015).
905. M. Hoffmann, M. Zier, S. Oswald, J. Eckert, "Challenges for Lithium Species Identification in Complementary Auger and X-Ray Photoelectron Spectroscopy", *J. Power Sources* **288**, 434 (2015).
906. H. Shakur Shahabi, S. Scudino, I. Kaban, M. Stoica, U. Rütt, U. Kühn, J. Eckert, "Structural Aspects of Elasto-Plastic Deformation of a Zr-Based Bulk Metallic Glass under Uniaxial Compression", *Acta Mater.* **95**, 30 (2015).
907. M. Stoica, P. Ramasamy, I. Kaban, S. Scudino, M. Nicoara, G.B.M. Vaughan, J. Wright, R. Kumar, J. Eckert, "Structure Evolution of Soft Magnetic $(Fe_{36}Co_{36}B_{19.2}Si_{4.8}Nb_4)_{100-x}Cu_x$ (x = 0 and 0.5) Bulk Glassy Alloys", *Acta Mater.* **95**, 335 (2015).
908. J. Balach, T. Jaumann, M. Klose, S. Oswald, J. Eckert, L. Giebeler, "Functional Mesoporous Carbon-Coated Separator for Long-Life, High-Energy Lithium-Sulfur Batteries", *Adv. Funct. Mater.* **25**, 5285 (2015).
909. I. Ibrahim, J. Kalbacova, V. Engemeier, J. Pang, R.D. Rodriguez, D. Grimm, T. Gemming, D.R.T. Zahn, O.G. Schmidt, J. Eckert, M.H. Rümmeli, "Confirming the Dual Role of Etchants during the Enrichment of Semiconducting Single Wall Carbon Nanotubes by Chemical Vapor Deposition", *Chem. Mater.* **27**, 5964 (2015).
910. M. Oschatz, M. Zeiger, N. Jäckel, P. Strubel, L. Borchardt, R. Reinhold, W. Nickel, J. Eckert, V. Presser, S. Kaskel, "Emulsion Soft Templating of Carbide-Derived Carbon Nanospheres with Controllable Porosity for Capacitive Electrochemical Energy Storage", *J. Mater. Chem. A* **3**, 17983 (2015).
911. S. Scudino, C. Unterdörfer, K.G. Prashanth, H. Attar, N. Ellendt, V. Uhlenwinkel, J. Eckert, "Additive Manufacturing of Cu-10Sn Bronze", *Mater. Lett.* **156**, 202 (2015).
912. B.S. Li, H. Shakur Shahabi, S. Scudino, J. Eckert, J.J. Kruzic, "Designed Heterogeneities Improve the Fracture Reliability of a Zr-Based Bulk Metallic Glass", *Mater. Sci. Eng. A* **646**, 242 (2015).
913. T. Jaumann, J. Balach, M. Klose, S. Oswald, U. Langklotz, A. Michaelis, J. Eckert, L. Giebeler, "SEI-Component Formation on Sub 5 nm Sized Silicon Nanoparticles in Li-Ion Batteries: The Role of Electrode Preparation, FEC Addition and Binders", *Phys. Chem. Chem. Phys.* **17**, 24956 (2015).
914. H. Attar, K.G. Prashanth, L.-C. Zhang, M. Calin, I.V. Okulov, S. Scudino, C. Yang, J. Eckert, "Effect of Powder Particle Shape on the Properties of In Situ Ti-TiB Composite Materials Produced by Selective Laser Melting", *J. Mater. Sci. Technol.* **31**, 1001 (2015).

915. I.V. Okulov, M.F. Sarmanova, A.S. Volegov, A. Okulov, U. Kühn, W. Skrotzki, J. Eckert, "Effect of Boron on Microstructure and Mechanical Properties of Multicomponent Titanium Alloys", *Mater. Lett.* **158**, 111 (2015).
916. J. Hu, B.A. Sun, Y. Yang, C. T. Liu, S. Pauly, Y.X. Weng, J. Eckert, "Intrinsic versus Extrinsic Effects on Serrated Flow of Bulk Metallic Glasses", *Intermetallics* **66**, 31 (2015).
917. R. Parthiban, M. Stoica, I. Kaban, R. Kumar, J. Eckert, "Viscosity and Fragility of the Supercooled Liquids and Melts from the Fe-Co-B-Si-Nb and Fe-Mo-P-C-B-Si Glass-Forming Alloy Systems", *Intermetallics* **66**, 48 (2015).
918. I. Kaban, P. Jóvári, B. Escher, D.T. Tran, G. Svensson, M.A. Webb, T.Z. Regier, V. Kokotin, B. Beuneu, T. Gemming, J. Eckert, "Atomic Structure and Formation of CuZrAl Bulk Metallic Glasses and Composites"*, Acta Mater.* **100**, 369 (2015).
919. A. Hynowska, A. Blanquer, E. Pellicer, J. Fornell, S. Suriñach, M.D. Baró, A. Gebert, M. Calin, J. Eckert, C. Nogués, E. Ibáñez, L. Barrios, J. Sort, "Nanostructured Ti-Zr-Pd-Si-(Nb) Bulk Metallic Composites: Novel Biocompatible Materials with Superior Mechanical Strength and Elastic Recovery"*, J. Biomed. Mater. Res. Part B* **103**, 1569 (2015).
920. D. Grell, P.F. Gostin, J. Eckert, A. Gebert, E. Kerscher, "In Situ Electrochemical Analysis during Deformation of a Zr-Based Bulk Metallic Glass: A Sensitive Tool Revealing Early Shear Banding"*, Adv. Eng. Mater.* **17**, 1532 (2015).
921. S.Y. Kim, E.S. Park, R.T. Ott, T.A. Lograsso, M.Y. Huh, D.H. Kim, J. Eckert, M.H. Lee, "Imprinting Bulk Amorphous Alloy at Room Temperature", *Sci. Reports* **5**, 16540 (2015).
922. D.Y. Wu, K.K. Song, C.D. Cao, R. Li, G. Wang, Y. Wu, F. Wan, F.L. Ding, Y. Shi, X.J. Bai, I. Kaban, J. Eckert, "Deformation-Induced Martensitic Transformation in Cu-Zr-Zn Bulk Metallic Glass Composites", *Metals* **5**, 2134 (2015).
923. H.T. Quang, A. Bachmatiuk, A. Dianat, F. Ortmann, J. Zhao, J.H. Warner, J. Eckert, G. Cuniberti, M.H. Rümmeli, "In Situ Observations of Free-Standing Graphene-like Mono- and Bilayer ZnO Membranes", *ACS Nano* **9**, 11408 (2015).
924. S. Nayak, S. Thota, D.C. Joshi, M. Krautz, A. Waske, A. Behler, J. Eckert, T. Sarkar, M.S. Andersson, R. Mathieu, V. Narang, M.S. Seehra, "Magnetic Compensation, Field-Dependent Magnetization Reversal, and Complex Magnetic Ordering in Co_2TiO_4"*, Phys. Rev. B* **92**, 214434 (2015).
925. Z. Wang, R.T. Qu, S. Scudino, B.A. Sun, K.G. Prashanth, D.V. Louzguine-Luzgin, M.W. Chen, Z.F. Zhang, J. Eckert, "Hybrid Nanostructured Aluminum Alloy with Super-high Strength", *NPG Asia Mater.* **7**, e2291408 (2015).
926. Z. Wang, S. Scudino, M. Stoica, W.W. Zhang, J. Eckert, "Al-Based Matrix Composites Reinforced with Short Fe-Based Metallic Glassy Fiber"*, J. Alloys & Compounds* **651**, 170 (2015).
927. H.Y. Jung, S.J. Choi, K.G. Prashanth, M. Stoica, S. Scudino, S. Yi, U. Kühn, D.H. Kim, K.B. Kim, J. Eckert, "Fabrication of Fe-Based Bulk Metallic Glass by Selective Laser Melting: A Parameter Study", *Mater. Des.* **86**, 703 (2015).
928. K.K. Song, D.Y. Wu, S. Pauly, C.X. Peng, L. Wang, J. Eckert, "Thermal Stability of B2 CuZr Phase, Microstructure Evolution and Martensitic Transformation in Cu-Zr-Ti Alloys", *Intermetallics* **67**, 177 (2015).
929. G.K. Rane, S. Menzel, M. Seifert, T. Gemming, J. Eckert, "Tungsten / Molybdenum Thin Films for Application as Interdigital Transducers on High Temperature Stable Piezoelectric Substrates $La_3Ga_5SiO_{14}$ and $Ca_3TaGa_5Si_2O_{14}$", *Mater. Sci. Eng. B* **202**, 31 (2015).
930. H. Turnow, H. Wendrock, S. Menzel, T. Gemming, J. Eckert, "Structure and Properties of Sputter Deposited Crystalline and Amorphous Cu-Ti Films", *Thin Solid Films* **598**, 184 (2016).
931. S. Abdi, S. Oswald, P.F. Gostin, A. Helth, J. Sort, M.D. Baró, M. Calin, L. Schultz, J. Eckert, A. Gebert, "Designing New Biocompatible Glass-Forming $Ti_{75-x}Zr_{10}Nb_xSi_{15}$ (x = 0, 15) Alloys: Corrosion, Passivity and Apatite Formation"*, J. Biomed. Mater. Res. Part B* **104**, 27 (2016).
932. J.-K. Lee, S.-Y. Kim, R.T. Ott, J.-Y. Kim, J. Eckert, M.H. Lee, "Effect of Reinforcement Phase on the Mechanical Property of Tungsten Nanocomposite Synthesized by Spark Plasma Sintering", *Int. J. Refract. Met. Hard Mater.* **54**, 14 (2016).
933. J. Sander, J. Hufenbach, L. Giebeler, H. Wendrock, U. Kühn, J. Eckert, "Microstructure and Properties of FeCrMoVC Tool Steel Produced by Selective Laser Melting", *Mater. Des.* **89**, 335 (2016).

934. K.G. Prashanth, S. Scudino, A.K. Chaubey, L. Löber, P. Wang, H. Attar, F.P. Schimansky, F. Pyczak, J. Eckert, "Processing of Al–12Si–TMN Composites by Selective Laser Melting and Evaluation of Compressive and Wear Properties"*, J. Mater. Res.* **31**, 55 (2016).
935. L. Zhang, S. Pauly, M.Q. Tang, J. Eckert, H.F. Zhang, "Two-Phase Quasi-Equilibrium in β-Type Ti-Based Bulk Metallic Glass Composites", *Sci. Reports* **6**, 19235 (2016).
936. Z.J. Yan, K.K. Song, Y. Hu, F.P. Dai, Z.B. Chu, J. Eckert, "Localized Crystallization in Shear Bands of a Metallic Glass", *Sci. Reports* **6**, 19358 (2016).
937. J. Pang, A. Bachmatiuk, I. Ibrahim, L. Fu, D. Placha, G. Simha Martynkova, B. Trebicka, T. Gemming, J. Eckert, M.H. Rümmeli, "CVD Growth of 1D and 2D sp^2 Carbon Nanomaterials: A Short Review", *J. Mater. Sci.* **51**, 640 (2016).
938. S. Nayak, D.C. Joshi, M. Krautz, A. Waske, J. Eckert, S. Thota, "Reentrant Spin-Glass Behavior and Bipolar Exchange-Bias Effect in "Sn" Substituted Cobalt-Orthotitanate"*, J. Appl. Phys.* **119**, 043901 (2016).
939. R. Ummethala, D. Wenger, S.F. Tedde, C. Täschner, A. Leonhardt, B. Büchner, J. Eckert, "Effect of Substrate Material on the Growth and Field Emission Characteristics of Large-Area Carbon Nanotube Forests"*, J. Appl. Phys.* **119**, 044302 (2016).
940. M. Madian, M. Klose, T. Jaumann, A. Gebert, S. Oswald, N. Ismail, A. Eychmüller, J. Eckert, L. Giebeler, "Anodically Fabricated TiO_2–SnO_2 Nanotubes and their Application in Lithium Ion Batteries", *J. Mater. Chem. A* **4**, 5542 (2016).
941. J. Balach, T. Jaumann, M. Klose, S. Oswald, J. Eckert, L. Giebeler, "Improving Cycling Stability of Lithium-Sulfur Batteries using a Polypropylene-Supported Nitrogen-Doped Mesoporous Carbon Hybrid Separator as Polysulfide Adsorbent"*, J. Power Sources* **303**, 317 (2016).
942. L.-C. Zhang, H. Attar, M. Calin, J. Eckert, "Review on Manufacture by Selective Laser Melting and Properties of Titanium Based Materials for Biomedical Applications", *Mater. Technol.: Adv. Performance Mater.* **31**, 66 (2016).
943. A.H. Taghvaei, J. Bednarčik, J. Eckert, "Atomic Structure and Thermal Behavior of $(Co_{0.65}Fe_{0.35})_{72}Ta_8B_{20}$ Metallic Glass with Excellent Soft Magnetic Properties"*, Intermetallics* **69**, 21 (2016).
944. A. Raduta, M. Nicoara, C. Locovei, J. Eckert, M. Stoica, "Ti-Based Bulk Glassy Composites Obtained by Replacement of Ni with Ga", *Intermetallics* **69**, 28 (2016).
945. H.Y. Jung, M. Stoica, S. Yi, D.H. Kim, J. Eckert, "Preparation of Cast-Iron-Based Nanocrystalline Alloy with Cu and Nb Addition"*, Intermetallics* **69**, 54 (2016).
946. M. Herklotz, J. Weiß, E. Ahrens, M. Yavuz, L. Mereacre, N. Kızıltaş-Yavuz, C. Dräger, H. Ehrenberg, J. Eckert, F. Fauth, L. Giebeler, M. Knapp, "A Novel High Throughput Setup for *In Situ* Powder Diffraction on Coin Cell Batteries"*, J. Appl. Cryst.* **49**, 340 (2016).
947. J. Romberg, J. Freudenberger, H.J. Bauder, G. Plattner, H. Krug, F. Holländer, J. Scharnweber, A. Eschke, U. Kühn, H.J Klauß, C.-G. Oertel, W. Skrotzki, J. Eckert, L. Schultz, "Ti/Al Multi-Layered Sheets: Accumulative Roll Bonding (Part A)"*, Metals* **6**, 30 (2016).
948. J. Romberg, J. Freudenberger, H. Watanabe, J. Scharnweber, A. Eschke, U. Kühn, H.J Klauß, C.-G. Oertel, W. Skrotzki, J. Eckert, L. Schultz, "Ti/Al Multi-Layered Sheets: Differential Speed Rolling (Part B)"*, Metals* **6**, 31 (2016).
949. P. Ma, Y. Jia, K.G. Prashanth, S. Scudino, Z.S. Yu, J. Eckert, "Microstructure and Phase Formation in Al-20Si-5Fe-3Cu-1Mg Synthesized by Selective Laser Melting", *J. Alloys & Compounds* **657**, 430 (2016).
950. F. Silze, G. Wiehl, I. Kaban, H. Wendrock, T. Gemming, U. Kühn, J. Eckert, S. Pauly, "Wetting Behaviour of Cu-Ga Alloys on 304L Steel", *Mater. Des.* **91**, 11 (2016).
951. X. Tong, G. Wang, J.L. Ren, S. Pauly, Y.L. Gao, Q.J. Zhai, N. Mattern, K.A. Dahmen, P.K. Liaw, J. Eckert, "Shear Avalanches in Plastic Deformation of a Metallic Glass Composite", *Int. J. Plasticity* **77**, 141 (2016).
952. L. Xi, I. Kaban, R. Nowak, G. Bruzda, N. Sobczak, J. Eckert, "High-Temperature Interfacial Interactions between Liquid Ti-Al Alloys with TiB_2 Ceramic"*, J. Mater. Sci.* **51**, 1779 (2016).
953. G.K. Rane, M. Seifert, S. Menzel, T. Gemming, J. Eckert, "Tungsten as a Chemically-Stable Electrode Material on Ga-Containing Piezoelectric Substrates Langasite and Catangasite for High Temperature SAW Devices", *Materials* **9**, 101 (2016).
954. P. Ramasamy, M. Stoica, A.H. Taghvaei, K.G. Prashanth, R. Kumar, J. Eckert, "Kinetic Analysis

of the Non-Isothermal Crystallization Process, Magnetic and Mechanical Properties of FeCoBSiNb and FeCoBSiNbCu Bulk Metallic Glasses", *J. Appl. Phys.* **119**, 073908 (2016).

955. I. Kaban, R. Nowak, G. Bruzda, L. Xi, N. Sobczak, J. Eckert, L. Giebeler, "Wettability and Work of Adhesion of Liquid Sulfur on Carbon Materials for Electrical Energy Storage Applications", *Carbon* **98**, 702 (2016).
956. X.L. Bian, G. Wang, H.C. Chen, L. Yan, J.G. Wang, Q. Wang, P.F. Hu, J.L. Ren, K.C. Chan, N. Zheng, A. Teresiak, Y.L. Gao, Q.J. Zhai, J. Eckert, J. Beadsworth, K.A. Dahmen, P.K. Liaw, "Manipulation of Free Volumes in a Metallic Glass through Xe-Irradiation", *Acta Mater.* **106**, 66 (2016).
957. D. Şopu, C. Soyarslan, B. Sarac, S. Bargmann, M. Stoica, J. Eckert, "Structure-Property Relationships in Nanoporous Metallic Glasses", *Acta Mater.* **106**, 199 (2016).
958. T. Jaumann, J. Balach, M. Klose, S. Oswald, J. Eckert, L. Giebeler, "Role of 1,3-Dioxolane and $LiNO_3$ Addition on the Long Term Stability of Nanostructured Silicon / Carbon Anodes for Rechargeable Lithium Batteries", *J. Electrochem. Soc.* **163**, A557 (2016).
959. I.G. Gonzalez-Martinez, T. Gemming, R. Mendes, A. Bachmatiuk, V. Bezugly, J. Kunstmann, J. Eckert, G. Cuniberti, M.H. Rümmeli, "In-Situ Quasi-Instantaneous E-Beam Driven Catalyst-Free Formation of Crystalline Aluminum Borate Nanowires", *Sci. Reports* **6**, 22524 (2016).
960. U. Stoeck, J. Balach, M. Klose, D. Wadewitz, E. Ahrens, J. Eckert, L. Giebeler, "Reconfiguration of Lithium Sulphur Batteries: "Enhancement of Li–S Cell Performance by Employing a Highly Porous Conductive Separator Coating"", *J. Power Sources* **309**, 76 (2016).
961. J. Zeisig, J. Hufenbach, H. Wendrock, T. Gemming, J. Eckert, U. Kühn, "A Study of the Micro- and Nanoscale Deformation Behavior of Individual Austenitic Dendrites in a FeCrMoVC Cast Alloy using Micro- and Nanoindentation Experiments", *Appl. Phys. Lett.* **108**, 143103 (2016).
962. P. Gargarella, S. Pauly, M. Samadi Khoshkhoo, C.S. Kiminami, U. Kühn, J. Eckert, "Improving the Glass-Forming Ability and Plasticity of a TiCu-Based Bulk Metallic Glass Composite by Minor Additions of Si", *J. Alloys & Compounds* **663**, 531 (2016).
963. D.Y. Wu, K.K. Song, P. Gargarella, C.D. Cao, R. Li, I. Kaban, J. Eckert, "Glass-Forming Ability, Thermal Stability of B2 CuZr Phase, and Crystallization Kinetics for Rapidly Solidified Cu-Zr-Zn Alloys", *J. Alloys & Compounds* **664**, 99 (2016).
964. M. Romero da Silva, P. Gargarella, T. Gustmann, W.J. Botta Filho, C.S. Kiminami, J. Eckert, S. Pauly, C. Bolfarini, "Laser Surface Remelting of a Cu-Al-Ni-Mn Shape Memory Alloy", *Mater. Sci. Eng. A* **661**, 61 (2016).
965. M. Nicoara, A. Raduta, R. Parthiban, C. Locovei, J. Eckert, M. Stoica, "Low Young's Modulus Ti-Based Porous Bulk Glassy Alloy without Cytotoxic Elements", *Acta Biomater.* **36**, 323 (2016).
966. A.K. Chaubey, S. Scudino, N.K. Mukhopadhyay, J. Eckert, "Processing, Microstructure and Mechanical Properties of Al-Based Metal Matrix Composites Reinforced with Mechanically Alloyed Particles", *J. Mater. Res.* **31**, 1229 (2016).
967. S. Abdi, M. Bönisch, S. Oswald, M. Samadi Khoshkhoo, W. Gruner, M. Lorenzetti, U. Wolff, M. Calin, J. Eckert, A. Gebert, "Thermal Oxidation Behavior of Glass-Forming Ti-Zr-(Nb)-Si Alloys", *J. Mater. Res.* **31**, 1264 (2016).
968. J. He, I. Kaban, N. Mattern, K.K. Song, B.A. Sun, J.Z. Zhao, D.H. Kim, J. Eckert, A.L. Greer, "Local Microstructure Evolution at Shear Bands in Metallic Glasses with Nanoscale Phase Separation", *Sci. Reports* **6**, 25832 (2016).
969. R. Schmidt, V. Hoffmann, A. Helth, P.F. Gostin, M. Calin, J. Eckert, A. Gebert, "Electrochemical Deposition of Hydroxyapatite on Beta-Ti-40Nb", *Surf. Coat. Technol.* **294**, 186 (2016).
970. L. Zhang, S. Pauly, Z.W. Zhu, T. Gemming, H.M. Fu, J. Eckert, H.F. Zhang, "Ion Milling-Induced Micrometer-Sized Heterogeneities and Partial Crystallization in a TiZrCuFeBe Bulk Metallic Glass", *Intermetallics* **73**, 5 (2016).
971. H. Shakur Shahabi, S. Scudino, I. Kaban, M. Stoica, B. Escher, S. Menzel, G.B.M. Vaughan, U. Kühn, J. Eckert, "Mapping of Residual Strains around a Shear Band in Bulk Metallic Glass by Nanobeam X-Ray Diffraction", *Acta Mater.* **111**, 187 (2016).
972. B. Sarac, L. Zhang, K. Kosiba, S. Pauly, M. Stoica, J. Eckert, "Towards the Better: Intrinsic Property Amelioration in Bulk Metallic Glasses", *Sci. Reports* **6**, 27271 (2016).
973. J. Balach, H.K. Singh, S. Gomoll, T. Jaumann, M. Klose, S. Oswald, M. Richter, J. Eckert,

L. Giebeler, "Synergistically Enhanced Polysulphide Chemisorption using a Flexible Hybrid Separator with N and S Dual-Doped Mesoporous Carbon Coating for Advanced Lithium-Sulfur Batteries"*, ACS Appl. Mater. Interfaces* **8**, 14586 (2016).

974. A. Krause, S. Dörfler, M. Piwko, F.M. Wisser, T. Jaumann, E. Ahrens, L. Giebeler, H. Althues, S. Schädlich, J. Grothe, A. Jeffery, M. Grube, J. Brückner, J. Martin, J. Eckert, S. Kaskel, T. Mikolajick, W.M. Weber, "High Area Capacity Lithium-Sulfur Full-Cell Battery with Prelithiated Silicon Nanowire-Carbon Anodes for Long Cycling Stability", *Sci. Reports* **6**, 27982 (2016).
975. T. Gustmann, A. Neves, U. Kühn, P. Gargarella, C.S. Kiminami, C. Bolfarini, J. Eckert, S. Pauly, "Influence of Processing Parameters on the Fabrication of a Cu-Al-Ni-Mn Shape-Memory Alloy by Selective Laser Melting"*, Addit. Manuf.* **11**, 23 (2016).
976. M. Hoffmann, S. Oswald, M. Zier, J. Eckert, "Auger and X-Ray Photoelectron Spectroscopy on Lithiated HOPG", *Surf. Interface Anal.* **48**, 501 (2016).
977. U. Vogel, T. Gemming, J. Eckert, S. Oswald, "Analysis of the Thermal and Temporal Stability of Ta and Ti Thin Films onto SAW-Substrate Materials ($LiNbO_3$ and $LiTaO_3$) using AR-XPS", *Surf. Interface Anal.* **48**, 570 (2016).
978. J. Balach, T. Jaumann, S. Mühlenhoff, J. Eckert, L. Giebeler, "Enhanced Polysulphide Redox Reaction using a RuO_2 Nanoparticle-Decorated Mesoporous Carbon as Functional Separator Coating for Advanced Lithium-Sulfur Batteries"*, Chem. Comm.* **52**, 8134 (2016).
979. D. Şopu, A.R. Foroughi, M. Stoica, J. Eckert, "Brittle-to-Ductile Transition in Metallic Glass Nanowires"*, Nano Lett.* **16**, 4467 (2016)
980. F. Karnbach, X.G. Yang, G. Mutschke, J. Fröhlich, J. Eckert, A. Gebert, K. Tschulik, K. Eckert, M. Uhlemann, "Interplay of the Open Circuit Potential-Relaxation and the Dissolution Behavior of a Single H_2 Bubble Generated at a Pt Microelectrode"*, J. Phys. Chem. C* **120**, 15137 (2016).
981. D. Mikhailova, O.M. Karakulina, D. Batuk, J. Hadermann, A.M. Abakumov, M. Herklotz, A.A. Tsirlin, S. Oswald, L. Giebeler, M. Schmidt, J. Eckert, M. Knapp, H. Ehrenberg, "Layered-to-Tunnel Structure Transformation and Oxygen Redox Chemistry in $LiRhO_2$ upon Li Extraction and Insertion"*, Inorgan. Chem.* **55**, 7079 (2016).
982. X. Tong, G. Wang, Z.H. Stachurski, J. Bednarčik, N. Mattern, Q.J. Zhai, J. Eckert, "Structural Evolution and Strength Change of a Metallic Glass at Different Temperatures"*, Sci. Reports* **6**, 30876 (2016).
983. A.H. Taghvaei, J. Eckert, "Comparative Study on the Isochronal and Isothermal Crystallization Kinetics of $Co_{46.45}Fe_{25.55}Ta_8B_{20}$ Soft Magnetic Metallic Glass with High Thermal Stability", *J. Alloys & Compounds* **675**, 223 (2016).
984. J. Suryawanshi, K.G. Prashanth, S. Scudino, J. Eckert, O. Prakash, U. Ramamurty, "Simultaneous Enhancements of Stength and Toughness in an Al-12Si Alloy Synthesized using Selective Laser Melting"*, Acta Mater.* **115**, 285 (2016).
985. L. Xi, I. Kaban, R. Nowak, G. Bruzda, N. Sobczak, M. Stoica, J. Eckert, "Investigation of Ni-B Alloys for Joining of TiB_2 Ultra-High-Temperature Ceramic"*, J. Mater. Eng. Perform.* **25**, 3204 (2016).
986. H. Schwab, F. Palm, U. Kühn, J. Eckert, "Microstructure and Mechanical Properties of the Near-Beta Titanium Alloy Ti-5553 Processed by Selective Laser Melting", *Mater. Des.* **105**, 75 (2016).
987. M. Klose, R. Reinhold, K. Pinkert, M. Uhlemann, F. Wolke, J. Balach, T. Jaumann, U. Stoeck, J. Eckert, L. Giebeler, "Hierarchically Nanostructured Hollow Carbon Nanospheres for Ultra-Fast and Long-Life Energy Storage", *Carbon* **106**, 306 (2016).
988. Y.S. Qin, Y. Shi, X.L. Han, K.K. Song, C.D. Cao, X.L. Li, S.H. Wang, J. He, L. Wang, I. Kaban, J. Eckert, "Formation and Phase Evolution of Liquid Phase-Separated Metallic Glasses with Double Glass Transition, Crystallization and Melting", *Mater. Today Commun.* **8**, 64 (2016).
989. X.H. Wang, A. Inoue, F.L. Kong, S.L. Zhu, M. Stoica, I. Kaban, C.T. Chang, E. Shalaan, F. Al-Marzouki, J. Eckert, "Influence of Ejection Temperature on Structure and Glass Transition Behavior for Zr-Based Rapidly Quenched Disordered Alloys", *Acta Mater.* **116**, 370 (2016).
990. J.G. Wang, H.B. Ke, Y. Pan, K.C. Chan, W.H. Wang, J. Eckert, "Ideal Shear Banding in Metallic Glass", *Philos. Mag.* **96**, 3159 (2016).
991. L. Kühn, A.-K. Herrmann, B. Rutkowski, M. Oezaslan, M. Nachtegaal, M. Klose, L. Giebeler,

N. Gaponik, J. Eckert, T.J. Schmidt, A. Czyrska-Filemonowicz, A. Eichmüller, "Alloying Behavior of Self-Assembled Noble Metal Nanoparticles", *Chem. Eur. J.* **22**, 13446 (2016).

992. B. Escher, U. Kühn, J. Eckert, C. Rentenberger, S. Pauly, "Influence of Ag and Co Additions on Glass-Forming Ability, Thermal and Mechanical Properties of Cu-Zr-Al Bulk Metallic Glasses", *Mater. Sci. Eng. A* **673**, 90 (2016).
993. S.A. Rounaghi, H. Eshghi, S. Scudino, A. Vyalikh, D.E.P. Vanpoucke, W. Gruner, S. Oswald, A.R. Kiani Rashid, M. Samadi Khoshkhoo, U. Scheler, J. Eckert, "Mechanochemical Route to the Synthesis of Nanostructured Aluminum Nitride", *Sci. Reports* **6**, 33375 (2016).
994. C.-X. Peng, K.-K. Song, L. Wang, D. Şopu, S. Pauly, J. Eckert, "Correlation between Structural Heterogeneity and Plastic Deformation for Phase Separating FeCu Metallic Glasses", *Sci. Reports* **6**, 34340 (2016).
995. J. Hufenbach, A. Helth, M.-H. Lee, H. Wendrock, L. Giebeler, C.-Y. Choe, K.-H. Kim, U. Kühn, T.-S. Kim, J. Eckert, "Effect of Cerium Addition on Microstructure and Mechanical Properties of High-Strength Fe85Cr4Mo8V2C1 Cast Steel", *Mater. Sci. Eng. A* **674**, 366 (2016).
996. B.A. Sun, K.K. Song, S. Pauly, P. Gargarella, J. Yi, G. Wang, C.T. Liu, J. Eckert, Y. Yang, "Transformation-Mediated Plasticity in CuZr Based Metallic Glass Composites: A Quantitative Mechanistic Understanding", *Int. J. Plasticity* **85**, 34 (2016).
997. M. Bönisch, T. Waitz, M. Calin, W. Skrotzki, J. Eckert, "Tailoring the Bain Strain of Martensitic Transformations in Ti-Nb Alloys by Controlling the Nb Content", *Int. J. Plasticity* **85**, 190 (2016).
998. P. Ramasamy, A. Szabo, S. Borzel, J. Eckert, M. Stoica, A. Bárdos, "High Pressure Die Casting of Fe-Based Metallic Glass", *Sci. Reports* **6**, 35258 (2016).
999. Y. Jia, F.Y. Cao, P. Ma, S. Scudino, J. Eckert, J.F. Sun, G. Wang, "Microstructure and Thermal Conductivity of Hypereutectic Al-High Si Produced by Casting and Spray Deposition", *J. Mater. Res.* **31**, 2948 (2016).
1000. C. Schubert, V. Hoffmann, A. Kümmel, J. Sinn, M. Härtel, A. Reuther, M. Thomalla, T. Gemming, J. Eckert, C. Leyens, "Compositional Depth Profiling of Diamond-Like Carbon Layers by Glow Discharge Optical Emission Spectroscopy", *J. Anal. Atom. Spectrom.* **31**, 2207 (2016).
1001. L. Zhang, H.F. Zhang, W.Q. Li, T. Gemming, Z.W. Zhu, H.M. Fu, J. Eckert, S. Pauly, "Negentropic Stabilization of Metastable β-Ti in Bulk Metallic Glass Composites", *Scripta Mater.* **125**, 19 (2016).
1002. P. Ma, Z.J. Wei, Y.D. Jia, C.M. Zou, S. Scudino, K.G. Prashanth, Z.S. Yu, S.L. Yang, C.G. Li, J. Eckert, "Effect of High Pressure Solidification on Tensile Properties and Strengthening Mechanisms of Al-20Si", *J. Alloys & Compounds* **688**, 88 (2016).
1003. Z. Wang, R.T. Qu, K.G. Prashanth, J. Eckert, S. Scudino, "Compression Behavior of Inter-Particle Regions in High-Strength $Al_{84}Ni_7Gd_6Co_3$ Alloy", *Mater. Lett.* **185**, 25 (2016).
1004. S.L. Ye, S. Zhang, J. Eckert, P. Yu, "Substitution Effect on Glass Formation of $Ni_xCo_{60-x}Nb_{40}$ Alloys", *Mater. Lett.* **185**, 541 (2016).
1005. K.G. Prashanth, K. Zhuravleva, I. Okulov, M. Calin, J. Eckert, A. Gebert, "Mechanical and Corrosion Behavior of New Generation Ti-45Nb Porous Alloys Implant Devices", *Technologies* **4**, 33 (2016).
1006. K.G. Prashanth, L. Löber, H.-J. Klauss, U. Kühn, J. Eckert, "Characterization of 316L Steel Cellular Dodecahedron Structures Produced by Selective Laser Melting", *Technologies* **4**, 34 (2016).
1007. A.K. Chaubey, K.G. Prashanth, Z. Wang, S. Scudino, N.K. Mukhopadhyay, J. Eckert, "Effect of Particle Size on Microstructure and Mechanical Properties of Al-Based Composite Reinforced with 10 Vol.% Mechanically Alloyed Mg-7.4 Al Particles", *Technologies* **4**, 37 (2016).
1008. K.G. Prashanth, S. Scudino, J. Eckert, "Tensile Properties of Al-12Si Fabricated via Selective Laser Melting (SLM) at Different Temperatures", *Technologies* **4**, 38 (2016).
1009. J. Sander, J. Hufenbach, L. Giebeler, M. Bleckmann, J. Eckert, U. Kühn, "Microstructure, Mechanical Behavior, and Wear Properties of FeCrMoVC Steel Prepared by Selective Laser Melting and Casting", *Scripta Mater.* **126**, 41 (2017).
1010. A. Helth, S. Pilz, T. Kirsten, L. Giebeler, J. Freudenberger, M. Calin, J. Eckert, A. Gebert, "Effect of Thermomechanical Processing on the Mechanical Biofunctionality of a Low Modulus Ti-40Nb Alloy", *J. Mech. Behav. Biomed. Mater.* **65**, 137 (2017).

1011. T. Jaumann, J. Balach, U. Langklotz, V. Sauchuk, M. Fritsch, A. Michaelis, V. Teltevskij, D. Mikhailova, S. Oswald, M. Klose, G. Stephani, R. Hauser, J. Eckert, L. Giebeler, "Lifetime vs. Rate Capability: Understanding the Role of FEC and VC in High-Energy Li-Ion Batteries with Nano-Silicon Anodes", *Energy Storage Materials* **6**, 26 (2017).
1012. I.V. Okulov, A.S. Volegov, H. Attar, M. Bönisch, S. Ehtemam-Haghighi, M. Calin, J. Eckert, "Composition Optimization of Low Modulus and High-Strength TiNb-Based Alloys for Biomedical Applications", *J. Mech. Behav. Biomed. Mater.* **65**, 866 (2017).
1013. J.T. Kim, S.H. Hong, H.J. Park, Y.S. Kim, J.Y. Suh, J.K. Lee, J.M. Park, T. Maity, J. Eckert, K.B. Kim, "Deformation Mechanisms to Ameliorate the Mechanical Properties of Novel TRIP / TWIP Co-Cr-Mo-(Cu) Ultrafine Eutectic Alloys", *Sci. Reports* **7**, 39959 (2017).
1014. I.V. Okulov, M. Bönisch, A.S. Volegov, H. Shakur Shahabi, H. Wendrock, T. Gemming, J. Eckert, "Micro-to-Nano-Scale Deformation Mechanism of a Ti-Based Dendritic-Ultrafine Eutectic Alloy Exhibiting Large Tensile Ductility", *Mater. Sci. Eng. A* **682**, 673 (2017).
1015. B. Völker, N. Jäger, M. Calin, M. Zehetbauer, J. Eckert A. Hohenwarter, "Influence of Testing Orientation on Mechanical Properties of Ti45Nb Deformed by High Pressure Torsion", *Mater. Des.* **114**, 40 (2017).
1016. Y.S. Qin, X.L. Han, K.K. Song Y.H. Tian, C.X. Peng, L. Wang, B.A. Sun, G. Wang, I. Kaban, J. Eckert, "Local Melting to Design Strong and Plastically Deformable Bulk Metallic Glass Composites", *Sci. Reports* **7**, 42518 (2017).
1017. K.G. Prashanth, S. Scudino, R.P. Chatterjee, O.O. Salman, Eckert, "Additive Manufacturing: Reproducibility of Metallic Parts", *Technologies* **5**, 8 (2017).
1018. J. Pang, R.G. Mendes, P.S. Wrobel, M.D. Wlodarski, H.Q. Ta, L. Zhao, L. Giebeler, B. Trzebicka, T. Gemming, L. Fu, Z.F. Liu, J. Eckert, A. Bachmatiuk, M.H. Rümmeli, "Self-Terminating Confinement Approach for Large-Area Uniform Monolayer Graphene Directly over Si/SiO_x by Chemical Vapor Deposition", *ACS Nano* **11**, 1946 (2017).
1019. J.J. Gutiérrez Moreno, M. Bönisch, N.T. Panagiotopoulos, M. Calin, D.G. Papageorgiou, A. Gebert, J. Eckert, G.A. Evangelakis, Ch. E. Lekka, "Ab-Initio and Experimental Study of Phase Stability of Ti-Nb Alloys", *J. Alloys & Compounds* **696**, 481 (2017).
1020. L. Zhang, Z.Y. He, J. Tan, Y.Q. Zhang, M. Stoica, K.G. Prashanth, M.J. Cordill, Y.H. Jiang, R. Zhou, J. Eckert, "Rapid Fabrication of Function-Structure-Integrated NiTi Alloys: Towards a Combination of Excellent Superelasticity and Favorable Bioactivity", *Intermetallics.* **82**, 1 (2017).
1021. K.G. Prashanth, S. Scudino, J. Eckert, "Defining the Tensile Properties of Al-12Si Parts Produced by Selective Laser Melting", *Acta Mater.* **126**, 25 (2017).
1022. P. Jóvári, I. Kaban, B. Escher, K.K. Song, J. Eckert, B. Beuneu, M.A. Webb, N. Chen, "Structure of Glassy $Cu_{47.5}Zr_{47.5}Ag_5$ Investigated with Neutron Diffraction with Isotopic Substitution, X-ray Diffraction, EXAFS and Reverse Monte Carlo Simulation", *J. Non-Cryst. Solids* **459**, 99 (2017).
1023. H. Attar, S. Ehtemam-Haghighi, D. Kent, I.V. Okulov, H. Wendrock, M. Bönisch, A.S. Volegov, M. Calin, J. Eckert, M.S. Dargusch, "Nanoindentation and Wear Properties of Ti and Ti-TiB Composite Materials Produced by Selective Laser Melting", *Mater. Sci. Eng. A* **688**, 20 (2017).
1024. M. Krautz, D. Werner, M. Schrödner, A. Funk, A. Jantz, J. Popp, J. Eckert, A. Waske, "Hysteretic Behavior of Soft Magnetic Elastomer Composites", *J. Magn. Magn. Mater.* **426**, 60 (2017).
1025. M. Bönisch, A. Panigrahi, M. Calin, T. Waitz, M. Zehetbauer, W. Skrotzki, J. Eckert, "Thermal Stability and Latent Heat of Nb-rich Martensitic Ti-Nb Alloys", *J. Alloys & Compounds* **697**, 300 (2017).
1026. C. Gammer, B. Escher, C. Ebner, A.M. Minor, H.-P. Karnthaler, J. Eckert, S. Pauly, C. Rentenberger, "Influence of the Ag Concentration on the Medium-Range Order in a CuZrAlAg Bulk Metallic Glass", *Sci. Reports* **7**, 44903 (2017).
1027. Y.D. Jia, P. Ma, K.G. Prashanth, G. Wang, J. Yi, S. Scudino, F.Y. Cao, J.F. Sun, J. Eckert, "Microstructure and Thermal Expansion Behavior of Al-50Si Synthesized by Selective Laser Melting", *J. Alloys & Compounds* **699**, 548 (2017).
1028. B. Sarac, S. Bera, S. Balakin, M. Stoica, M. Calin, J. Eckert, "Hierarchical Surface Patterning of Ni- and Be-Free Ti- and Zr-Based Bulk Metallic Glasses by Thermoplastic Net-Shaping", *Mater. Sci. Eng. C* **73**, 398 (2017).

1029. K. Kosiba, S. Scudino, R. Kobold, U. Kühn, A.L. Greer, J. Eckert, S. Pauly, "Transient Nucleation and Microstructural Design in Flash-Annealed Bulk Metallic Glasses", *Acta Mater.* **127**, 416 (2017).
1030. S. Bera, B. Sarac, S. Balakin, P. Ramasamy, M. Stoica, M. Calin, J. Eckert, "Micro-Patterning by Thermoplastic Forming of Ni-Free Ti-Based Bulk Metallic Glasses", *Mater. Des.* **120**, 204 (2017).
1031. X.L. Bian, G. Wang, Q. Wang, B.A. Sun, I. Hussain, Q.J. Zhai, N. Mattern, J. Bednarčik, J. Eckert, "Cryogenic-Temperature-Induced Structural Transformation of a Metallic Glass", *Mater. Res. Lett.* **5**, 284 (2017).
1032. L. Zhang, Z.Y. He, J. Tan, Y.Q. Zhang, M. Stoica, M. Calin, K.G. Prashanth, M.J. Cordill, Y.H. Jiang, R. Zhou, J. Eckert, "Designing a Novel Functional-Structural NiTi / Hydroxyapatite Composite with Enhanced Mechanical Properties and High Bioactivity", *Intermetallics* **84**, 35 (2017).
1033. J. Sander, J. Hufenbach, M. Bleckmann, L. Giebeler, H. Wendrock, S. Oswald, T. Gemming, J. Eckert, U. Kühn, "Selective Laser Melting of Ultra-High-Strength TRIP Steel: Processing, Microstructure and Properties", *J. Mater. Sci.* **52**, 4944 (2017).
1034. J. Torrens-Serra, P. Bruna, M. Stoica, J. Eckert, "Glass-Forming Ability and Microstructural Evolution of $[(Fe_{0.6}Co_{0.4})_{0.75}Si_{0.05}B_{0.20}]_{96-x}Nb_4M_x$ Metallic Glasses Studied by Mössbauer Spectroscopy", *J. Alloys & Compounds* **704**, 748 (2017).
1035. T. Jaumann, M. Gerwig, J. Balach, S. Oswald, E. Brendler, R. Hauser, B. Kieback, J. Eckert, L. Giebeler, E. Kroke, "Dichlorosilane-Derived Nano-Silicon Inside Hollow Carbon Speheres as High-Performance Anode for Li-Ion Batteries", *J. Mater. Chem. A* **5**, 9262 (2017).
1036. S.A. Rounaghi, D.E.P. Vanpoucke, H. Eshghi, S. Scudino, E. Esmaeili, S. Oswald, J. Eckert, "Mechanochemical Synthesis of Nanostructured Metal Nitrides, Carbonitrides and Carbon Nitride: A Combined Theoretical and Experimental Study", *Phys. Chem. Chem. Phys.* **19**, 12414 (2017).
1037. W.F. Lu, C.J. Li, B. Sarac, D. Şopu, J.H. Yi, J. Tan, M. Stoica, J. Eckert, "Structural, Elastic and Electronic Properties of CoZr in B2 and B33 Structures under High Pressure", *J. Alloys & Compounds* **705**, 445 (2017).
1038. K.G. Prashanth, J. Eckert, "Formation of Metastable Cellular Microstructures in Selective Laser Melted Alloys", *J. Alloys & Compounds* **707**, 27 (2017).
1039. Z. Wang, S. Scudino, K.G. Prashanth, J. Eckert, "Corrosion Properties of High-Strength Nanocrystalline $Al_{84}Ni_7Gd_6Co_3$ Alloy Produced by Hot Pressing of Metallic Glass", *J. Alloys & Compounds* **707**, 63 (2017).
1040. P. Ramasamy, M. Stoica, S. Bera, M. Calin, J. Eckert, "Effect of Replacing Nb with (Mo and Zr) on Glass Forming Ability, Magnetic and Mechanical Properties of FeCoBSiNb Bulk Metallic Glass", *J. Alloys & Compounds* **707**, 78 (2017).
1041. P. Wang, H.C. Li, K.G. Prashanth, J. Eckert, S. Scudino, "Selective Laser Melting of Al-Zn-Mg-Cu: Heat Treatment, Microstructure and Mechanical Properties", *J. Alloys & Compounds* **707**, 287 (2017).
1042. K.G. Prashanth, S. Kolla, J. Eckert, "Additive Manufacturing Processes: Selective Laser Melting, Electron Beam Melting and Binder Jetting – Selection Guidelines", *Materials* **10**, 672 (2017).
1043. L. Zhang, H.F. Zhang, W.Q. Li, T. Gemming, P. Wang, M. Bönisch, D. Şopu, J. Eckert, S. Pauly, "β-Type Ti-Based Bulk Metallic Glass Composites with Tailored Structural Metastability", *J. Alloys & Compounds* **708**, 972 (2017).
1044. P. Ma, Z.J. Wei, Y.D. Jia, Z.S. Yu, K.G. Prashanth, S.L. Yang, C.G. Li, L.X. Huang, J. Eckert, "Mechanism of Formation of Fibrous Eutectic Si and Thermal Conductivity of SiC_p / Al-20Si Composites Solidified under High Pressure", *J. Alloys & Compounds* **709**, 329 (2017).
1045. F.X. Li, J.H. Yi, J. Eckert, "Deformation Behavior of Powder Metallurgy Connecting Rod Preform During Hot Forging Based on Hot Compression and Finite Element Method Simulation", *Metall. Mater. Trans. A* **48**, 2971 (2017).
1046. Z. Wang, K. Georgarakis, W.W. Zhang, K.G. Prashanth, J. Eckert, S. Scudino, "Reciprocating Sliding Wear Behavior of High-Strength Nanocrystalline $Al_{84}Ni_7Gd_6Co_3$ Alloys", *Wear* **382-383**, 78 (2017).
1047. Y.S. Qin, X.L. Han, K.K. Song, L. Wang, Y. Chen, Z.Q. Zhang, Q.S. Xue, N.Z. Sun, J.G. Wang, B.A. Sun, B. Sarac, F. Spieckermann, G. Wang, I. Kaban, J. Eckert, "Stability of Shear Banding Process in Bulk Metallic Glasses and Composites", *J. Mater. Res.* **32**, 2560 (2017).

1048. P. Gargarella, S. Pauly, C.S. Kiminami, J. Eckert, "Effect of Co Additions on the Phase Formation, Thermal Stability and Mechanical Properties of Rapidly Solidified Ti-Cu-Based Alloys", *J. Mater. Res.* **32**, 2578 (2017).
1049. J. Zeisig, N. Schädlich, L. Giebeler, J. Sander, J. Eckert, U. Kühn, J. Hufenbach, "Microstructure and Abrasive Wear Behavior of a Novel FeCrMoVC Laser Cladding Alloy for High-Performance Tool Steels", *Wear* **382-383**, 107 (2017).
1050. B. Sarac, S. Bera, F. Spieckermann, S. Balakin, M. Stoica, M. Calin, J. Eckert, "Micropatterning Kinetics of Different Glass-Forming Systems Investigated by Thermoplastic Net-Shaping", *Scripta Mater.* **137**, 127 (2017).
1051. J.G. Wang, Y.C. Hu, P.F. Guan, K.K. Song, L. Wang, G. Wang, Y. Pan, B. Sarac, J. Eckert, "Hardening of Shear Band in Metallic Glass", *Sci. Reports* **7**, 7076 (2017).
1052. H. Schwab, M. Bönisch, L. Giebeler, T. Gustmann, J. Eckert, U. Kühn, "Processing of Ti-5553 with Improved Mechanical Properties via an In-Situ Heat Treatment Combining Selective Laser Melting and Substrate Plate Heating", *Mater. Des.* **130**, 83 (2017).
1053. K.G. Prashanth, R. Damodaram, T. Maity, P. Wang, J. Eckert, "Friction Welding of Selective Laser Melted Ti6Al4V Parts"*, Mater. Sci. Eng. A* **704**, 66 (2017).
1054. X.L. Bian, G. Wang, J. Yi, Y.D. Jia, J. Bednarčik, Q.J. Zhai, I. Kaban, B. Sarac, M. Mühlbacher, F. Spieckermann, J. Keckes, J. Eckert, "Atomic Origin for Rejuvenation of a Zr-Based Metallic Glass at Cryogenic Temperature", *J. Alloys & Compounds* **718**, 254 (2017).
1055. P. Turalska, M. Homa, G. Bruzda, N. Sobcak, I. Kaban, N. Mattern, J. Eckert, "Wetting Behavior and Reactivity between Liquid Gd and ZrO_2 Substrate", *J. Min. Metall. Sect. B-Metall.* **53**, 285 (2017).
1056. K.G. Prashanth, S. Scudino, T. Maity, J. Das, J. Eckert, "Is the Energy Density a Reliable Parameter for Materials Synthesis by Selective Laser Melting ?", *Mater. Res. Lett.* **5**, 386 (2017).
1057. B. Sarac, A. Bernasconi, J. Wright, M. Stoica, F. Spieckermann, M. Mühlbacher, J. Keckes, X.L. Bian, G. Wang, J. Eckert, "Structural Modifications in Sub-T_g Annealed CuZr-Based Metallic Glass", *Mater. Sci. Eng. A* **707**, 245 (2017).
1058. M. Bönisch, A. Panigrahi, M. Stoica, M. Calin, E. Ahrens, M. Zehetbauer, W. Skrotzki, J. Eckert, "Giant Thermal Expansion and α-Precipitation Pathways in Ti Alloys", *Nat. Commun.* **8**, 1429 (2017).
1059. P. Ramasamy, R.N. Shahid, S. Scudino, J. Eckert, M. Stoica, "Influencing the Crystallization of $Fe_{80}Nb_{10}B_{10}$ Metallic Glass by Ball Milling", *J. Alloys & Compounds* **725**, 227 (2017).
1060. X.Q. Liu, C.J. Li, J. Eckert, K.G. Prashanth, O. Renk, L. Teng, Y.C. Liu, R. Bao, J.M. Tao, T. Shen, J.H. Yi, "Microstructure Evolution and Mechanical Properties of Carbon Nanotubes Reinforced Al Matrix Composites", *Mater. Charact.* **133**, 122 (2017).
1061. C.X. Peng, D. Şopu, K.K. Song, Z.T. Zhang, L. Wang, J. Eckert, "Bond Length Deviation in CuZr Metallic Glasses", *Phys. Rev. B* **96**, 174112 (2017).
1062. A. Foroughi, H. Ashuri, R. Tavakoli, M. Stoica, D. Şopu, J. Eckert, "Structural Modification through Pressurized Sub-T_g Annealing of Metallic Glasses", *J. Appl. Phys.* **122**, 215106 (2017).
1063. R. Schmidt, S. Pilz, I. Lindemann, C. Damm, J. Hufenbach, A. Helth, D. Geissler, A. Henss, M. Rohnke, M. Calin, M. Zimmermann, J. Eckert, M.H. Lee, A. Gebert, "Powder Metallurgical Processing of Low Modulus β-Type Ti-45Nb to Bulk and Macro Porous Compacts", *Powder Technol.* **322**, 393 (2017).
1064. U. Vogel, S. Oswald, J. Eckert, "Interface and Stability Analysis of Tantalum- and Titanium Nitride Thin Films onto Lithiumniobate", *Appl. Surf. Sci.* **425**, 254 (2017).
1065. L. Zhang, Z.Y. He, J. Tan, M. Calin, K.G. Prashanth, B. Sarac, B. Völker, Y.H. Jiang, R. Zhou, J. Eckert, "Designing a Multifunctional Ti-2Cu-4Ca Porous Biomaterial with Favorable Mechanical Properties and High Bioactivity", *J. Alloys & Compounds* **727**, 338 (2017).
1066. A.-Y. Lee, J.-K. Song, H.-R. Oh, H.-A. Kim, S.-Y. Kim, A.-R. Kwon, E.-S. Park, C.-H. Lim, J. Eckert, M.-H. Lee, "Strain Dependence of Diffusion in Zr-Based Bulk Amorphous Alloy", *J. Appl. Phys.* **122**, 245105 (2017).
1067. S.A. Rounaghi, D.E.P. Vanpoucke, H. Eshghi, S. Scudino, E. Esmaeili, S. Oswald, J. Eckert, "A Combined Experimental and Theoretical Investigation of the Al-Melamine Reactive Milling System: A Mechanistic Study towards AlN-Based Ceramics", *J. Alloys & Compounds* **729**, 240 (2017).

1068. F.X. Li, J.H. Yi, J. Eckert, "Optimization of the Hot Forging Processing Parameters for Powder Metallurgy Fe-Cu-C Connecting Rods Based on Finite Element Simulation", *Metall. Mater. Trans. A* **48**, 6027 (2017).
1069. P. Turalska, M. Homa, R. Nowak, G. Bruzda, N. Sobczak, I. Kaban, N. Mattern, J. Eckert, "Wettability, Reactivity and Interfaces in the Gd/TiO_2 System", *Trans. Foundry Res. Inst.* **LVII**, 303 (2017).
1070. P. Turalska, N. Sobczak, A. Polkowska, G. Bruzda, A. Kudyba, I. Kaban, N. Mattern, J. Eckert, "Wettability and Reactivity of Liquid Gd in Contact with Al_2O_3 Ceramics", *Inz. Pow. (Surface Engineering)* **22**, 41 (2017).
1071. P. Wang, C. Gammer, F. Brenne, K.G. Prashanth, R.G. Mendes, M.H. Rümmeli, T. Gemming, J. Eckert, S. Scudino, "Microstructure and Mechanical Properties of a Heat-Treatable Al-3.5Cu-1.5Mg-1Si Alloy Produced by Selective Laser Melting", *Mater. Sci. Eng. A* **711**, 562 (2018).
1072. T. Maity, A. Dutta, P.P. Jana, K.G. Prashanth, J. Eckert, J. Das, "Influence of Nb on the Microstructure and Fracture Toughness of $(Zr_{0.76}Fe_{0.24})_{100-x}Nb_x$ ($0 \leq x \leq 10$ at.%) Nano-Eutectic Composites", *Materials* **11**, 113 (2018).
1073. A. Funk, M. Zeilinger, A. Miehe, D. Şopu, J. Eckert, F. Dötz, A. Waske, "MnFePSi-Based Magnetocaloric Packed Bed Regenerators: Structural Details Probed by X-Ray Tomography", *Chem. Eng. Sci.* **175**, 84 (2018).
1074. S.-Y. Kim, G.-Y. Lee, G.-H. Park, H.-A. Kim, A.-Y. Lee, S. Scudino, K.G. Prashanth, D.-H. Kim, J. Eckert, M.-H. Lee, "High Strength Nanostructured Al-Based Alloys through Optimized Processing of Rapidly Quenched Amorphous Precursors", *Sci. Reports* **8**, 1090 (2018).
1075. B. Sarac, C. Gammer, L. Deng, E. Park, Y. Yokoyama, M. Stoica, J. Eckert, "Elastostatic Reversibility in Thermally Formed Bulk Metallic Glasses: Nanobeam Diffraction Fluctuation Electron Microscopy", *Nanoscale* **10**, 1081 (2018).
1076. T. Maity, N. Chawake, J.T Kim, J. Eckert, K.G. Prashanth, "Anisotropy in Local Microstructure – Does it Affect the Tensile Properties of the SLM Samples ?", *Manuf. Lett.* **15PA**, 1033 (2018).
1077. L. Xi, I. Kaban, R. Nowak, G. Bruzda, N. Sobczak, J. Eckert, "Wetting, Reactivity, and Phase Formation at Interfaces between Ni-Al Melts and TiB_2 Ultrahigh-Temperature Ceramic", *J. Am. Ceram. Soc.* **101**, 911 (2018).
1078. J.T. Kim, H.J. Kim, S.H. Hong, H.J. Park, Y.S. Kim, Y.J. Hwang, Y.B. Jeong, J.-Y. Park, J.M. Park, B. Sarac, W.-M. Wang, J. Eckert, K.B. Kim, "Thermally-Triggered Dual In-Situ Self-Healing Metallic Materials", *Sci. Reports* **8**, 2120 (2018).
1079. Q. Luo, B. Schwarz, J.C. Swarbrick, J. Bednarčik, Y.C. Zhu, M.B. Tang, L.R. Zheng, R. Li, J. Shen, J. Eckert, "Local-Structure Change Rendered by Electronic Localization-Delocalization Transition in Ce-Based Metallic Glasses", *Phys. Rev. B* **97**, 064104 (2018).
1080. K.K. Song, X.L. Han, S. Pauly, Y.S. Qin, K. Kosiba, C.X. Peng, J.H. Gong, P.X. Chen, L. Wang, B. Sarac, S. Ketov, M. Mühlbacher, F. Spieckermann, I. Kaban, J. Eckert, "Rapid and Partial Crystallization to Design Ductile CuZr-Based Bulk Metallic Glass Composites", *Mater. Des.* **139**, 132 (2018).
1081. L. Zhang, H.F. Zhang, X.B. Ren, J. Eckert, Y.D. Wang, Z.W. Zhu, T. Gemming, S. Pauly, "Amorphous Martensite in β-Ti Alloys", *Nat. Commun.* **9**, 506 (2018).
1082. O.O. Salman, A. Funk, A. Waske, J. Eckert, S. Scudino, "Additive Manufacturing of a 316L Steel Matrix Composite Reinforced with CeO_2 Particles: Process Optimization by Adjusting the Laser Scanning Speed", *Technologies* **6**, 25 (2018).
1083. P. Wang, L. Deng, K.G. Prashanth, S. Pauly, J. Eckert, S. Scudino, "Microstructure and Mechanical Properties of Al-Cu Alloys Fabricated by Selective Laser Melting of Powder Mixtures", *J. Alloys & Compounds* **735**, 2263 (2018).
1084. V. Kauschke, A. Gebert, M. Calin, J. Eckert, S. Scheich, C. Heiss, K.S. Lips, "Effects of New Beta-Type Ti-40Nb Implant Materials, Brain-Derived Neurotrophic Factor, Acetylcholine and Nicotine on Human Mesenchymal Stem Cells of Osteoporotic and Non Osteoporotic Donors", *PLOS ONE* **13**, e0193468 (2018).
1085. S. Pilz, D. Geissler, M. Calin, J. Eckert, M. Zimmermann, J. Freudenberger, A. Gebert, "Thermomechanical Processing of In-Containing β-Type Ti-Nb Alloys", *J. Mech. Behav. Biomed. Mater.* **79**, 283 (2018).
1086. X.L. Han, K.K. Song, L.M. Zhang, H. Xing, B. Sarac, F. Spieckermann, T. Maity, M. Mühlbacher,

L. Wang, I. Kaban, J. Eckert, "Microstructures, Martensitic Transformation, and Mechanical Behavior of Rapidly Solidified Ti-Ni-Hf and Ti-Ni-Si Shape Memory Alloys", *J. Mater. Eng. Perform.* **27**, 1005 (2018).

1087. H.G. Sun, K.K. Song, X.L. Han, H. Xing, X.L. Li, S.H. Wang, J.T. Kim, N. Chawake, T. Maity, L. Wang, J. Eckert, "Martensitic Transformation and Plastic Deformation of TiCuNiZr-Based Bulk Metallic Glass Composites", *Metals* **8**, 1965 (2018).
1088. X.H. Wang, A. Inoue, J.F. Zhao, F.L. Kong, S.L. Zhu, I. Kaban, M. Stoica, S. Oswald, C. Fan, E. Shalaan, F. Al-Marzouki, J. Eckert, F.X. Yin, Q. Li, "Liquid Ejection Temperature Dependence of Structure and Glass Transition Behavior for Rapidly Solidified Zr-Al-M (M = Ni, Cu or Co) Ternary Glassy Alloys", *J. Alloys & Compounds* **739**, 1104 (2018).
1089. B. Sarac, Y. P. Ivanov, A. Chuvilin, T. Schöberl, M. Stoica, Z. Zhang, J. Eckert, "Origin of Large Plasticity and Multiscale Effects in Iron-Based Metallic Glasses", *Nat. Commun.* **9**, 1333 (2018).
1090. S.V. Ketov, A.S. Trifonov, Yu. P. Ivanov, A. Yu. Churyumov, A.V. Lubenchenko, A.A. Batrakov, J. Jiang, D.V. Louzguine-Luzgin, J. Eckert, J. Orava, A.L. Greer, "On Cryothermal Cycling as a Method for Inducing Structural Changes in Metallic Glasses", *NPG Asia Mater.* **10**, 137 (2018).
1091. F.X. Li, P.D. Hao, J.H. Yi, Z. Chen, K.G. Prashanth, T. Maity, J. Eckert, "Microstructure and Strength of Nano-/Ultrafine-Grained Carbon Nanotube-Reinforced Titanium Composites Processed Fabricated High-Pressure Torsion", *Mater. Sci. Eng. A* **722**, 122 (2018).
1092. C. Gammer, C. Ophus, T.C. Pekin, J. Eckert, A. Minor, "Local Nanoscale Strain Mapping of a Metallic Glass During In-Situ Testing", *Appl. Phys. Lett.* **112**, 171905 (2018).
1093. Y.Y. Liu, P.Z. Liu, J.J. Li, P.K. Liaw, F. Spieckermann, D. Kiener, J.W. Qiao, J. Eckert, "Universally Scaling Hall-Petch-Like Relationship in Metallic Glass Matrix Composites", *Int. J. Plasticity* **105**, 225 (2018).
1094. A.H. Taghvaei, N.G. Shirazifard, P. Ramasamy, J. Bednarčik, J. Eckert, "Thermal Behavior, Structural Relaxation and Magnetic Study of a New Hf-Microalloyed Co-Based Glassy Alloy with High Thermal Stability", *J. Alloys & Compounds* **748**, 553 (2018).
1095. Z.Q. Zhang, K.K. Song, B.A. Sun, L. Wang, W.C. Cui, Y.S. Qin, X.L. Han, Q.S. Xue, C.X. Peng, B. Sarac, F. Spieckermann, I. Kaban, J. Eckert, "Dual Self-Organised Shear Banding Behaviours and Enhanced Ductility in Phase Separating Zr-Based Bulk Metallic Glasses", *Philos. Mag.* **98**, 1744 (2018).
1096. J.T. Kim, S.H. Hong, J.M. Park, J. Eckert, K.B. Kim, "Microstructure and Mechanical Properties of Hierarchical Multi-Phase Composites Based on Al-Ni-Type Intermetallic Compounds in the Al-Ni-Cu-Si System", *J. Alloys & Compounds* **749**, 205 (2018).
1097. S. Scudino, J.J. Bian, H. Shakur Shahabi, D. Şopu, J. Sort, J. Eckert, G. Liu, "Ductile Bulk Metallic Glasses by Controlling Structural Heterogeneities", *Sci. Reports* **8**, 9174 (2018).
1098. B. Sarac, T. Karazehir, M. Mühlbacher, B. Kaynak, C. Gammer, T. Schöberl, A.S. Sarac, J. Eckert, "Electrosorption of Hydrogen in Pd-Based Metallic Glass Nanofilms", *ACS Appl. Energy Mater.* **1**, 2630 (2018).
1099. M.R. da Silva, P. Gargarella, W. Wolf, T. Gustmann, C.S. Kiminami, S. Pauly, J. Eckert, C. Bolfarini, "Microstructural Characterization of a Laser Surface Remelted Cu-Based Shape Memory Alloy", *Mater. Res.* **21**, e20171044 (2018).
1100. F.X. Li, P.D. Hao, J.H. Yi, D. Şopu, J. Tan, X.Y. Chong, J. Eckert, "Anisotropic Elastic Properties and Phase Stability of B2 and B19 CuZr Structures under Hydrostatic Pressure", *Intermetallics* **98**, 60 (2018).
1101. S. Pilz, A. Gebert, A. Voss, S. Oswald, M. Göttlicher, U. Hempel, J. Eckert, M. Rohnke, J. Janek, M. Calin, "Metal Release and Cell Biological Compatibility of Beta-Type Ti-40Nb Containing Indium", *J. Biomed. Mater. Res. Part B* **106**, 1686 (2018).
1102. J.T. Kim, S.H. Hong, X.L. Bian, P.K. Gokuldoss, K.K. Song, J. Eckert, J.M. Park, K.B. Kim, "Effect of Boron Addition on Thermal and Mechanical Properties of Co-Cr-Mo-C-(B) Glass-Forming Alloys", *Intermetallics* **99**, 1 (2018).
1103. P. Wang, C. Gammer, F. Brenne, T. Niendorf, J. Eckert, S. Scudino, "A Heat Treatable TiB_2 / Al-3.5Cu-1.5Mg-1Si Composite Fabricated by Selective Laser Melting: Microstructure, Heat Treatment and Mechanical Properties", *Composites Part B* **147**, 162 (2018).
1104. I.V. Okulov, M. Bönisch, A.V. Okulov, A.S. Volegov, H. Attar, S. Ehtemam-Haghighi, M. Calin, Z. Wang, A. Hohenwarter, I. Kaban, K.G. Prashanth, J. Eckert, "Phase Formation, Microstructure

and Deformation Behavior of Heavily Alloyed TiNb- and TiV-Based Titanium Alloys", *Mater. Sci. Eng. A* **733**, 80 (2018).

1105. J.T. Kim, S.H. Hong, Y.S. Kim, H.J. Park, T. Maity, N. Chawake, X.L. Bian, B. Sarac, J.M. Park, K.G. Prashanth, J.Y. Park, J. Eckert, K.B. Kim, "Cooperative Deformation Behavior between the Shear Band and Boundary Sliding of an Al-Based Nanostructure-Dendrite Composite", *Mater. Sci. Eng. A* **735**, 81 (2018).
1106. G.H. Geng, Z.J. Yan, Y. Hu, Z. Wang, S.V. Ketov, J. Eckert, "Correlation Between the Atomic Configurations and the Amorphous-to-Icosahedral Phase Transition in Metallic Glasses", *J. Mater. Res.* **33**, 2775 (2018).
1107. T. Maity, K.G. Prashanth, Ö. Balçi, J.T. Kim, T. Schöberl, Z. Wang, J. Eckert, "Influence of Severe Straining and Strain Rate on the Evolution of Dislocation Structures During Micro- / Nanoindentation in High Entropy Lamellar Eutectics", *Int. J. Plasticity* **109**, 121 (2018).
1108. Z. Wang, K.G. Prashanth, K.B. Surreddi, C. Suryanarayana, J. Eckert, S. Scudino, "Pressure-Assisted Sintering of Al-Gd-Ni-Co Amorphous Alloy Powders", *Materialia* **2**, 157 (2018).
1109. T. Maity, K.G. Prashanth, Ö. Balçi, Z. Wang, Y.D. Jia, J. Eckert, "Plastic Deformation Mechanisms in Severely Strained Eutectic High Entropy Composites Explained via Strain Rate Sensitivity and Activation Volume", *Composites Part B* **150**, 7 (2018).
1110. X.Q. Liu, C.J. Li, J.H. Yi, K.G. Prashanth, N. Chawake, J.M. Tao, X. You, Y.C. Liu, J. Eckert, "Enhancing the Interface Bonding in Carbon Nanotubes Reinforced Al Matrix Composites by the In Situ Formation of $TiAl_3$ and TiC", *J. Alloys & Compounds* **765**, 98 (2018).
1111. D. Şopu, K. Albe, J. Eckert, "Metallic Glass Nanolaminates with Shape Memory Alloys", *Acta Mater.* **159**, 344 (2018).
1112. C. Ebner, B. Escher, C. Gammer, J. Eckert, S. Pauly, C. Rentenberger, "Structural and Mechanical Characterization of Heterogeneities in CuZr-Based Bulk Metallic Glass Processed by High Pressure Torsion", *Acta Mater.* **160**, 147 (2018).
1113. S. Maity, D.K. Chanda, P. Ramasamy, B.K. Show, J. Eckert, S. Bera, "Coexistence of Adjacent Vacancy-Ordered and Eutectic Phases in Al-Cu-Ni Alloys", *Philos. Mag. Lett.* **98**, 486 (2018).
1114. F.X. Li, P.D. Hao, J.H. Yi, K.G. Prashanth, T. Maity, J. Eckert, "Strengthening Effects in Nano- / Ultrafine-Grained Carbon Nanotube Reinforced-Titanium Composites Investigated by Finite Element Modeling", *Metall. Mater. Trans. A* **49**, 6469 (2018).
1115. Z.Q. Zhang, K.K. Song, S. Guo, Q.S. Xue, H. Xing, C.D. Cao, F.P. Dai, B. Völker, A. Hohenwarter, T. Maity, N. Chawake, J.T. Kim, L. Wang, I. Kaban, J. Eckert, "Optimizing Mechanical Properties of $Fe_{26.7}Co_{26.7}Ni_{26.7}Si_{8.9}B_{11}$ High Entropy Alloy by Inducing Hypoeutectic to Quasi-Duplex Microstructural Transition", *Sci. Reports* **9**, 360 (2019).
1116. Z. Wang, K.G. Prashanth, W.W. Zhang, S. Scudino, J. Eckert, "Removing the Oxide Layer in a Nanostructured Aluminum Alloy by Local Shear Deformation Between Nanoscale Phases", *Powder Technol.* **343**, 733 (2019).
1117. J.T. Kim, S.H. Hong, Y.S. Kim, H.J. Park, T. Maity, N.M. Chawake, K.G. Prashanth, J.M. Park, K.K. Song, W.M. Wang, J. Eckert, K.B. Kim, "Co-Cr-Mo-C-B Metallic Glasses with Wide Supercooled Liquid Region Obtained by Systematic Adjustment of the Metalloid Ratio", *J. Non-Cryst. Solids* **505**, 310 (2019).
1118. O. Glushko, A. Funk, V. Maier-Kiener, P. Kraker, M. Krautz, J. Eckert, A. Waske, "Mechanical Properties of the Magnetocaloric Intermetallic $LaFe_{11.2}Si_{1.8}$ Alloy at Different Length Scales", *Acta Mater.* **165**, 40 (2019).
1119. Z.Q. Zhang, K.K. Song, R. Li, Q.S. Xue, S. Wu, D. Yan, X.L. Li, B. Song, B. Sarac, J.T. Kim, P. Ramasamy, L. Wang, J. Eckert, "Polymorphic Transformation and Magnetic Properties of Rapidly Solidified $Fe_{26.7}Co_{26.7}Ni_{26.7}Si_{8.9}B_{11}$ High-Entropy Alloys", *Materials* **11**, 590 (2019).
1120. S.V. Ketov, Yu. P. Ivanov, D. Şopu, D.V. Louzguine-Luzgin, C. Suryanarayana, A.O. Rodin, T. Schöberl, A.L. Greer, J. Eckert, "High-Resolution Transmission Electron Microscopy Investigation of Diffusion in Metallic Glass Multilayer Films", *Mater. Today Adv.* **1**, 100004 (2019).
1121. F. Spieckermann, I. Steffny, X.L. Bian, S. Ketov, M. Stoica, J. Eckert, "Fast and Direct Determination of Fragility in Metallic Glasses Using Chip Calorimetry", *Heliyon* **5**, e01334 (2019).

1122. N. Chawake, P. Ghosh, L. Raman, A.K. Srivastav, T. Paul, S.P. Harimkar, J. Eckert, R.S. Kottada, "Estimation of Diffusivity from Densification Data Obtained During Spark Plasma Sintering", *Scripta Mater.* **161**, 36 (2019).
1123. O.O. Salman, C. Gammer, A.K. Chaubey, J. Eckert, S. Scudino, "Effect of Heat Treatment on Microstructure and Mechanical Properties of 316L Steel Synthesized by Selective Laser Melting", *Mater. Sci. Eng. A* **748**, 205 (2019).
1124. S.A. Rounaghi, D.E.P. Vanpoucke, E. Esmaeili, S. Scudino, J. Eckert, "Synthesis, Characterization and Thermodynamic Stability of Nanostructured ε-Iron Carbonitride Powder Prepared by a Solid-State Mechanochemical Route", *J. Alloys & Compounds* **778**, 327 (2019).
1125. J.T. Kim, S.H. Hong, J. Eckert, K.B. Kim, "Influence of Directional Microstructure on Mechanical Properties in Al-Based Ultrafine Bimodal Lamellar Structured Alloy", *Mat. Design Process. Comm.* **1**, e52 (2019).
1126. X.L. Bian, D. Zhao, J.T. Kim, D. Şopu, G. Wang, R. Pippan, J. Eckert, "Controlling the Distribution of Structural Heterogeneities in Severely Deformed Metallic Glass", *Mater. Sci. Eng. A* **752**, 36 (2019).
1127. C.X. Peng, D. Şopu, Y. Cheng, K.K. Song, S.H. Wang, J. Eckert, L. Wang, "Deformation Behavior of Designed Dual-Phase CuZr Metallic Glasses", *Mater. Des.* **168**, 107662 (2019).
1128. D. Şopu, X.D. Yuan, F. Moitzi, M. Stoica, J. Eckert, "Structure-Property Relationships in Shape Memory Metallic Glass Composites", *Materials* **12**, 1419 (2019).
1129. B. Sarac, F. Spieckermann, A. Rezvan, C. Gammer, L. Krämer, J.T. Kim, J. Keckes, R. Pippan, J. Eckert, "Annealing-Assisted High-Pressure Torsion in $Zr_{55}Cu_{30}Al_{10}Ni_5$ Metallic Glass", *J. Alloys & Compounds* **784**, 1323 (2019).
1130. Q. Dong, Y.J. Pan, J. Tan, X.M. Qin, C.J. Li, P. Gao, Z.X. Feng, M. Calin, J. Eckert, "A Comparative Study of Glass-Forming Ability, Crystallization Kinetics and Mechanical Properties of $Zr_{55}Co_{25}Al_{20}$ and $Zr_{52}Co_{25}Al_{23}$ Bulk Metallic Glasses", *J. Alloys & Compounds* **785**, 422 (2019).
1131. O. Glushko, M. Mühlbacher, C. Gammer, M.J. Cordill, C. Mitterer, J. Eckert, "Exceptional Fracture Resistance of Ultrathin Metallic Glass Thin Films due to an Intrinsic Size Effect", *Sci. Reports* **9**, 8281 (2019).
1132. B. Escher, I. Kaban, U. Kühn, J. Eckert, S. Pauly, "Stability of the B2 CuZr Phase in Cu-Zr-Al-Sc Bulk Metallic Glass Matrix Composites", *J. Alloys & Compounds* **790**, 657 (2019).
1133. S.K. Zhang, P. Ma, Y.D. Jia, Z.S. Yu, R. Sokkalingam, X.R. Shi, P.C. Ji, J. Eckert, K.G. Prashanth, "Microstructure and Mechanical Properties of Al-(12-20)Si Bi-Material Fabricated by Selective Laser Melting", *Materials* **12**, 2126 (2019).
1134. S. Bera, P. Ramasamy, D. Şopu, B. Sarac, J. Zálešák, C. Gammer, M. Stoica, M. Calin, J. Eckert, "Tuning the Glass Forming Ability and Mechanical Properties of Ti-Based Bulk Metallic Glasses by Ga Additions", *J. Alloys & Compounds* **793**, 552 (2019).
1135. B. Sarac, Y.P. Ivanov, T. Karazehir, M. Mühlbacher, B. Kaynak, A.L. Greer, A.S. Sarac, J. Eckert, "Ultrahigh Hydrogen-Sorbing Palladium Metallic-Glass Nanostructures", *Mater. Horizons* **6**, 1481 (2019).
1136. V. Zadorozhnyy, E. Berdonosova, C. Gammer, J. Eckert, M. Zadorozhnyy, A. Bazlov, M. Zheleznyi, S. Kaloshkin, S. Klyamkin, "Mechanochemical Synthesis and Hydrogenation Behavior of $(TiFe)_{100-x}Ni_x$ Alloys", *J. Alloys & Compounds* **796**, 42 (2019).
1137. T. Maity, K.G. Prashanth, A. Janda, J.T. Kim, F. Spieckermann, J. Eckert, "Mechanism of High-Pressure Torsion-Induced Shear Banding and Lamellar Thickness Saturation in Co-Cr-Fe-Ni-Nb High-Entropy Composites", *J. Mater. Res.* **34**, 2672 (2019).
1138. N. Chawake, P. Ghosh, J. Eckert, R.S. Kottada, "An Investigation on Diffusivity While Achieving a Cylindrical Aluminide Coating on Metals Using Simultaneous Spark Plasma Sintering of Powders", *Scripta Mater.* **170**, 156 (2019).
1139. O.O. Salman, F. Brenne, T. Niendorf, J. Eckert, K.G. Prashanth, S. Scudino, "Impact of the Scanning Strategy on the Mechanical Behavior of 316L Steel Synthesized by Selective Laser Melting", *J. Manuf. Process.* **45**, 255 (2019).
1140. E. Esmaeili, S.A. Rounaghi, W. Gruner, J. Eckert, "The Preparation of Surfactant-Free Highly Dispersed Ethylene Glycol-Based Aluminum Nitride-Carbon Nanofluids for Heat Transfer Application", *Adv. Powder Technol.* **30**, 2032 (2019).

1141. B. Völker, V. Maier-Kiener, K. Werbach, T. Müller, S. Pilz, M. Calin, J. Eckert, A. Hohenwarter, "Influence of Annealing on Microstructure and Mechanical Properties of Ultrafine-Grained Ti45Nb", *Mater. Des.* **179**, 107864 (2019).
1142. S.A. Rounaghi, H. Eshghi, S. Scudino, E. Esmaeili, A.-R. Kiani-Rashid, J. Eckert, "Mechanochemical Reaction of Al and Melamine: A Potential Approach towards the In Situ Synthesis of Aluminum Nitride - Carbon Nanotube Nanocomposites"*, Phys. Chem. Chem. Phys.* **21**, 22121 (2019).
1143. F.X. Li, P. Chen, Z. Chen, P.D. Hao, J.H. Yi, K.G. Prashanth, J. Eckert, "Face Centered Cubic Titanium in High Pressure Torsion Processed Carbon Nanotubes Reinforced Titanium Composites"*, J. Alloys & Compounds* **806**, 939 (2019).
1144. S.-Y. Kim, H.-R. Oh, H.-A. Kim, A.-Y. Lee, H.-J. Kim, S.-S. Yang, Y.-J. Kim, H.-J. Choi, I.-H. Kim, H.-G. Kim, J. Eckert, J.-R. Kim, M.-H. Lee, "Optimizing the Magnetic Properties of Fe-Based Amorphous Powder by Adjusting Atomic Structures from Vitrification at Different Temperatures"*, J. Appl. Phys.* **126**, 165109 (2019).
1145. S. Bera, S. Paul, P. Ramasamy, D. Mandal, M. Das, A. Lassnig, O. Renk, M. Calin, J. Eckert, "Synthesis of New Glassy Mg-Ca-Zn Alloys with Exceptionally Low Young's Modulus: Exploring Near Eutectic Compositions"*, Scripta Mater.* **173**, 139 (2019).
1146. O.O. Salman, C. Gammer, J. Eckert, M.Z. Salih, E.H. Abdulsalam, K.G. Prashanth, S. Scudino, "Selective Laser Melting of 316L Stainless Steel: Influence of TiB_2 Addition on Microstructure and Mechanical Properties"*, Mater. Today Commun.* **21**, 100615 (2019).
1147. G. Potnis, M. Krautz, A. Waske, J. Das, J. Eckert, "Assessing Two Rapid Quenching Techniques for the Production of La-Fe-Si Magnetocaloric Alloys in Reduced Annealing Time", *Mat. Design Process. Comm.* **1**, e96 (2019).
1148. P. Wang, C.S. Lao, Z.W. Chen, Y.K. Liu, H. Wang, H. Wendrock, J. Eckert, S. Scudino, "Microstructure and Mechanical Properties of Al-12Si and Al-3.5Cu-1.5Mg-1Si Bimetal Fabricated by Selective Laser Melting", *J. Mater. Sci. Technol.* **36**, 18 (2020).
1149. I. Okulov, I. Soldatov, I. Kaban, B. Sarac, F. Spieckermann, J. Eckert, "Fabrication of Metastable Crystalline Composites by Flash Annealing of $Cu_{47.5}Zr_{47.5}Al_5$ Metallic Glass Using Joule Heating"*, Nanomaterials* **10**, 84 (2020).
1150. H.D. Guan, C.J. Li, P. Gao, K.G. Prashanth, J. Tan, J. Eckert, J.M. Tao, J.H. Yi, "Aluminum Matrix Composites Reinforced with Metallic Glass Particles with Core-Shell Structure", *Mater. Sci. Eng. A* **771**, 138630 (2020).
1151. S. Maity, D.K. Chandra, P. Ramasamy, B.K. Show, J. Eckert, S. Bera, "Evolution of Bimodal Microstructure and High-Temperature Wear Resistance of Al-Cu-Ni Alloys", *Metall. Mater. Trans. A* **51**, 109 (2020).
1152. C. Ebner, S. Pauly, J. Eckert, C. Rentenberger, "Effect of Mechanically Induced Structural Rejuvenation on the Deformation Behaviour of CuZr Based Bulk Metallic Glass", *Mater. Sci. Eng. A* **773**, 138848 (2020).
1153. B. Sarac, T. Karazehir, M. Mühlbacher, A.S. Sarac, J. Eckert, "Electrocatalytic Behavior of Hydrogenated Pd-Metallic Glass Nanofilms: Butler-Volmer, Tafel and Impedance Analyses", *Electrocatalysis* **11**, 94 (2020).
1154. V. Zadorozhnyy, S.V. Ketov, T. Wada, S. Wurster, V. Nayak, D. Louzguine-Luzgin, J. Eckert, H. Kato, "Novel α+β–Type Ti-Fe-Cu Alloys Containing Sn with Pertinent Mechnical Properties"*, Metals* **10**, 34 (2020).
1155. D.L. Yan, K.K. Song, H.G. Sun, S. Wu, K. Zhao, H.Z. Zhang, S.Z. Yuan, J.T. Kim, N. Chawake, O. Renk, A. Hohenwarter, L. Wang, J. Eckert, "Microstructures, Mechanical Properties and Corrosion Behaviors of Refractory High-Entropy ReTaWNbMo Alloys"*, J. Mater. Eng. Perform.* **29**, 399 (2020).
1156. V. Zadorozhnyy, B. Sarac, E. Berdonosova, T. Karazehir, A. Lassnig, C. Gammer, M. Zadorozhnyy, S. Ketov, S. Klyamkin, J. Eckert, "Evolution of Hydrogen Storage Performance of ZrTiVNiCrFe in Electrochemical and Gas-Solid Reactions"*, Int. J. Hydrog. Energy* **45**, 5347 (2020).
1157. N. Chawake, J. Zálešák, C. Gammer, R. Franz, M.J. Cordill, J.T. Kim, J. Eckert, "Microstructural Characterization of Medium Entropy Alloy Thin Films", *Scripta Mater.* **177**, 22 (2020).

1158. A.H. Taghvaei, F. Danaeifar, C. Gammer, J. Eckert, S. Khosravimelal, M. Gholipourmalekabadi, "Synthesis and Characterization of Novel Mesoporous Strontium-Modified Bioactive Glass Nanospheres for Bone Tissue Engineering Applications"*, Microporous Mesoporous Mater.* **294**, 109889 (2020).
1159. A.Y. Lee, S.Y. Kim, H. Jang, Y.D. Kim, F. Spieckermann, G. Wilde, J. Eckert, M.H. Lee, "Strain Perceptibility of Elements on the Diffusion in Zr-Based Amorphous Alloys", *Sci. Reports* **10**, 4575 (2020).
1160. P. Ramasamy, M. Stoica, G. Ababei, N. Lupu, J. Eckert, "Soft Ferromagnetic Bulk Metallic Glass with Potential Self-Healing Ability", *Materials* **13**, 1319 (2020).
1161. D. Şopu, S. Scudino, X.L. Bian, C. Gammer, J. Eckert, "Atomic-Scale Origin of Shear Band Multiplication in Heterogeneous Metallic Glasses", *Scripta Mater.* **178**, 57 (2020).
1162. T. Karazehir, B. Sarac, H.-D. Gilsing, J. Eckert, A.S. Sarac, "Oligoether Ester-Functionalized ProDOT Copolymers on Si / Monolayer Graphene as Capacitive Thin Film Electrodes"*, J. Electrochem. Soc.* **167**, 07053 (2020).
1163. F.X. Li, P. Chen, J. Han, L. Deng, J.H. Yi, Y.C. Liu, J. Eckert, "Metal Flow Behavior of P/M Connecting Rod Preform in Flashless Forging Based on Isothermal Compression and Numerical Simulation"*, J. Mater. Res. Technol.* **9**, 1200 (2020).
1164. K.R. Li, W.F. Lu, C.J. Li, D. Şopu, B. Sarac, J.H. Yi, J. Tan, P. Gao, J. Eckert, "Stability, Elasticity and Electronic Structures of Co-Zr Binary Intermetallic Compounds", *Philos. Mag.* **100**, 874 (2020).
1165. T. Zhang, R.D. Zhao, F.F. Wu, S.B. Lin, S.S. Jiang, Y.J. Huang, S.H. Chen, J. Eckert, "Transformation-Enhanced Strength and Ductility in a FeCoCrNiMn Dual Phase High-Entropy Alloy"*, Mater. Sci. Eng. A* **780**, 139182 (2020).
1166. J.T. Kim, S.H. Hong, J.M. Park, J. Eckert, K.B. Kim, "New Para-Magnetic $(CoFeNi)_{50}(CrMo)_{50-x}(CB)_x$ (x = 20, 25, 30) Non-Equiatomic High Entropy Metallic Glasses with Wide Supercooled Liquid Region and Excellent Mechanical Properties", *J. Mater. Sci. Technol.* **43**, 135 (2020).
1167. F. Moitzi, D. Şopu, D. Holec, D. Perera, N. Mousseau, J. Eckert, "Chemical Bonding Effects on the Brittle-to-Ductile Transition in Metallic Glasses", *Acta Mater.* **188**, 273 (2020).
1168. Z. Wang, M.S. Xie, Y.Y. Li, W.W. Zhang, C. Yang, L. Kollo, J. Eckert, K.G. Prashanth, "Premature Failure of an Additively Manufactured Material"*, NPG Asia Mater.* **12**, 30 (2020).
1169. Q. Dong, P. Song, J. Tan, X.M. Qin, C.J. Li, P. Gao, Z.X. Feng, M. Calin, J. Eckert, "Non-Isothermal Crystallization Kinetics of a Fe-Cr-Mo-B-C Amorphous Powder", *J. Alloys & Compounds* **823**, 153783 (2020).
1170. A.H. Taghvaei, J. Eckert, "Development and Characterization of New Co-Fe-Hf-B Bulk Metallic Glass with High Thermal Stability and Superior Soft Magnetic Performance", *J. Alloys & Compounds* **823**, 153890 (2020).
1171. J.T. Kim, V. Soprunyuk, N. Chawake, Y.H. Zheng, F. Spieckermann, S.H. Hong, K.B. Kim, J. Eckert, "Outstanding Strengthening Behavior and Dynamic Mechanical Properties of In-Situ Al-Al_3Ni Eutectic Composites by Cu Addition", *Composites Part B - Engineering* **189**, 107891 (2020).
1172. P.D. Hao, P. Chen, L. Deng, F.X. Li, J.H. Yi, D. Şopu, J. Eckert, J.M. Tao, Y.C. Liu, R. Bao, "Anisotropic Elastic and Thermodynamic Properties of the HCP-Titanium and the FCC-Titanium Structure under Different Pressures"*, J. Mater. Res. Technol.* **9**, 3488 (2020).
1173. Z.J. Yan, K. Liu, J. Eckert, "Effect of Tempering and Deep Cryogenic Treatment on Microstructure and Mechanical Properties of Cr-Mo-V-Ni Steel", *Mater. Sci. Eng. A* **787**, 139520 (2020).
1174. B. Sarac, Yu.P. Ivanov, T. Karazehir, B. Putz, A.L. Greer, A.S. Sarac, J. Eckert, "Metallic-Glass Films with Nanostructured Periodic Density Fluctuations Suppoerted on Si/SiO_2 as Efficient Hydrogen Sorber", *Chem. Eur. J.* **26**, 8244 (2020).
1175. B. Sarac, V. Zadorozhnyy, E. Berdonosova, Y.P. Ivanov, S. Klyamkin, S. Gumrukcu, A.S. Sarac, A. Korol, D. Semenov, M. Zadorozhnyy, A. Sharma, A.L. Greer, J. Eckert, "Hydrogen Storage Performance of the Multi-Principal-Component CoFeMnTiVZr Alloy in Electrochemical and Gas-Solid Reactions", *RSC Adv.* **10**, 24613 (2020).
1176. A. Sharma, A. Kopylov, M. Zadorozhnyy, A. Stepashkin, V. Kudelkina, J.-Q. Wang, S. Ketov, M. Churyukanova, D.V. Louzguine-Luzgin, B. Sarac, J. Eckert, S. Kaloshkin, V. Zadorozhnyy,

H. Kato, "Mg-Based Metallic Glass-Polymer Composites: Investigation of Structure, Thermal Properties, and Biocompatibility", *Metals* **10**, 867 (2020).

1177. D. Perea, C. Parra, P. Ramasamy, M. Stoica, J. Eckert, F. Bolívar, P. Echeverría, "Structural and Phase Evolution upon Annealing of $Fe_{76}Si_{9-x}B_{10}P_5Mo_x$ (x = 0, 1,2 and 3) Alloys"*, Metals* **10**, 881 (2020).
1178. I.V. Okulov, S.-H. Joo, A.V. Okulov, A.S. Volegov, B. Luthringer, R. Willumeit-Römer, L.C. Zhang, L. Mädler, J. Eckert, H. Kato, "Surface Functionalization of Biomedical Ti-6Al-7Nb Alloy by Liquid Metal Dealloying"*, Nanomaterials* **10**, 1479 (2020).
1179. L. Zhang, R.L. Narayan, B.A. Sun, T.Y. Yan, U. Ramamurty, J. Eckert, H.F. Zhang, "Cooperative Shear in Bulk Metallic Glass Composites Containing Metastable β-Ti Dendrites"*, Phys. Rev. Lett.* **125**, 055501 (2020).
1180. A. Lovas, P. Ramasamy, A. Szabó, J. Kováč, L. Novák, J. Eckert, "Cluster-Related Phenomena in the Properties and Transformations of Transition Metal-Based Glassy Alloys"*, Metals* **10**, 1025 (2020).
1181. J. Fan, W. Rao, J.W. Qiao, P.K. Liaw, D. Şopu, D. Kiener, J. Eckert, G.Z. Kang, Y.C. Wu, "Achieving Work Hardening by Forming Boundaries on the Nanoscale in a Ti-Based Metallic Glass Matrix Composite", *J. Mater. Sci. Technol.* **50**, 192 (2020).
1182. T. Maity, Ö. Balçi, C. Gammer, E. Ivanov, J. Eckert, K.G. Prashanth, "High Pressure Torsion Induced Lowering of Young's Modulus in High Strength TNZT Alloy for Bio-Implant Applications", *J. Mechan. Behav. Biomed. Mater.* **108**, 103839 (2020).
1183. S. Paul, P. Ramasamay, M. Das, D. Mandal, O. Renk, M. Calin, J. Eckert, S. Bera, "New Mg-Ca-Zn Amorphous Alloys: Biocompatibility, Wettability and Mechanical Properties"*, Materialia* **12**, 100799 (2020).
1184. Z. Wang, S. Scudino, J. Eckert, K.G. Prashanth, "Selective Laser Melting of Nanostructured Al-Y-Ni-Co Alloy"*, Manuf. Lett.* **25**, 21 (2020).
1185. W.-P. Wu, D. Şopu, X. Yuan, J. Eckert, "Aspect Ratio-Dependent Nanoindentation Behavior of $Cu_{64}Zr_{36}$ Metallic Glass Nanopillars Investigated by Molecular Dynamics Simulations", *J. Appl. Phys.* **128**, 084303 (2020).
1186. P. Wang, J. Eckert, K.G. Prashanth, M.W. Wu, I. Kaban, L.X. Xi, S. Scudino, "A Review of Particulate-Reinforced Aluminum Matrix Composites Fabricated by Selective Laser Melting"*, Trans. Nonferrous Met. Soc. China* **30**, 2001 (2020).
1187. R. Ali, M.U. Akhtar, A. Zahoor, F. Ali, S. Scudino, R.N. Shahid, N. ul Haq Tariq, V.C. Srivastava, V. Uhlenwinkel, B.A. Hasan, J. Eckert, "Study of Thermal and Structural Characteristics of Mechanically Milled Nanostructured Al-Cu-Fe Quasicrystals", *Mater. Chem. Phys.* **251**, 123071 (2020).
1188. Y.D. Jia, L.B. Zhang, P. Ma, S. Scudino, G. Wang, J. Yi, J. Eckert, K.G. Prashanth, "Thermal Expension Behavior of Al-xSi Alloys Fabricated Using Selective Laser Melting"*, Prog. Addit. Manuf.* **5**, 247 (2020).
1189. X.L. Bian, D. Şopu, G. Wang, B.A. Sun, J. Bednarčik, C. Gammer, Q.J. Zhai, J. Eckert, "Signature of Local Stress States in the Deformation Behavior of Metallic Glasses", *NPG Asia Mater.* **12**, 59 (2020).
1190. X. Yuan, D. Şopu, F. Moitzi, K.K. Song, J. Eckert, "Intrinsic and Extrinsic Effects on the Brittle-to-Ductile Transition in Metallic Glasses", *J. Appl. Phys.* **128**, 125102 (2020).
1191. Z.Y. Xu, C.J. Li, Z. Wang, D. Fang, P. Gao, J.M. Tao, J.H. Yi, J. Eckert, "Balancing the Strength and Ductility of Graphene Oxide-Carbon Nanotube Hybrid Reinforced Aluminum Matrix Composites with Bimodal Grain Distribution", *Mater. Sci. Eng. A* **796**, 140067 (2020).
1192. Z. Wang, R. Ummethala, N. Singh, S.Y. Tang, C. Suryanarayana, J. Eckert, K.G. Prashanth, "Selective Laser Melting of Aluminum and Its Alloys"*, Materials* **13**, 4564 (2020).
1193. B. Sarac, V. Zadorozhnyy, Y.P. Ivanov, A. Kvaratskheliya, S. Ketov, T. Karazehir, S. Gumrukcu, E. Berdonosova, M. Zadorozhnyy, M. Micusik, M. Omastova, A.S. Sarac, A.L. Greer, J. Eckert, "Surface-Governed Electrochemical Hydrogenation in FeNi-Based Metallic Glass", *J. Power Sources* **475**, 228700 (2020).
1194. K.K. Song, S. Wu, I. Kaban, M. Stoica, J. Bednarčik, B.A. Sun, C.D. Cao, G. Wang, L. Wang,

J. Eckert, "In Situ High-Energy X-Ray Diffraction Study of Thermally-Activated Martensitic Transformation Far Below Room Temperature in CuZr-Based Bulk Metallic Glass Composites", *J. Alloys & Compounds* **841**, 155781 (2020).

1195. B. Sarac, T. Karazehir, Yu.P. Ivanov, B. Putz, A.L. Greer, A.S. Sarac, J. Eckert, "Effective Electrocatalytic Methanol Oxidation of Pd-Based Metallic Glass Nanofilms", *Nanoscale* **12**, 22586 (2020).
1196. H.S. Nickjeh, A.H. Taghvaei, P. Ramasamy, J. Eckert, "Phase Transformation, Thermal Behavior and Magnetic Study of New $Co_{80-x}Ta_xSi_5C_{15}$ (x = 0, 5) Glassy / Nanocrystalline Alloys Prepared by Mechanical Alloying", *J. Alloys & Compounds* **843**, 155913 (2020).
1197. O. Renk, P. Ghosh, R.K. Sabat, J. Eckert, R. Pippan, "The Role of Crystallographic Texture on Mechanically Induced Grain Boundary Migration", *Acta Mater.* **200**, 404 (2020).
1198. N. Singh, P. Hameed, R. Ummethala, G. Manivasagam, K.G. Prashanth, J. Eckert, "Selective Laser Manufacturing of Ti-Based Alloys and Composites: Impact of Process Parameters, Application Trends, and Future Prospects", *Mater. Today. Adv.* **8**, 100097 (2020).
1199. A.H. Taghvaei, F. Mazaleyrat, J. Eckert, "Fabrication and Characterization of Novel Soft Magnetic $[(Fe_{0.7}Co_{0.3})_{71.2}B_{24}Y_{4.8}]_{96}Nb_4$ / V_2O_5 Bulk Metallic Glassy / Composite Cores with Excellent Magnetic Permeability and Low Core Losses", *J. Alloys & Compounds* **846**, 156427 (2020).
1200. D. Şopu, F. Moitzi, N. Mousseau, J. Eckert, "An Atomic-Level Perspective of Shear Band Formation and Interaction in Monolithic Metallic Glasses", *Appl. Mater. Today* **21**, 100828 (2020).
1201. A. Rezvan, B. Sarac, V. Soprunyuk, J.T. Kim, K.K. Song, C.J. Li, W. Schranz, J. Eckert, "Influence of Combinatorial Annealing and Plastic Deformation Treatments on the Intrinsic Properties of $Cu_{46}Zr_{46}Al_8$ Bulk Metallic Glass", *Intermetallics* **127**, 106986 (2020).
1202. R. Ummethala, P.S. Karamched, S. Rathinavelu, N. Singh, A. Aggarwal, K. Sun, E. Ivanov, L. Kollo, I. Okulov, J. Eckert, K.G. Prashanth, "Selective Laser Melting of High-Strength, Low-Modulus Ti-35Nb-7Zr-5Ta Alloy", *Materialia* **14**, 100941 (2020).
1203. N. Chawake, L. Raman, P. Ramasamy, P. Ghosh, F. Spieckermann, C. Gammer, B.S. Murty, R.S. Kottada, J. Eckert, "Composite of Medium Entropy Alloys Synthesized Using Spark Plasma Sintering", *Scripta Mater.* **191**, 46 (2021).
1204. R. Gürbüz, B. Sarac, V. Soprunyuk, E. Yüce, J. Eckert, A. Ozcan, A.S. Sarac, "Thermomechanical and Structural Characterization of Polybutadiene / Poly(Ethylene Oxide) / CNT Stretchable Electrospun Fibrous Membranes", *Polym. Adv. Technol.* **32**, 248 (2021).
1205. A. Rezvan, B. Sarac, V. Soprunyuk, F. Spieckermann, C. Gammer, H.P. Sheng, N.A. Sifferlinger, J. Eckert, "Deformation-Mode-Sensitive Behavior of CuZr-Based Bulk Metallic Glasses under Dynamic Loading", *Metall. Mater. Trans. A* **52**, 8 (2021).
1206. Z. Wang, S.Y. Tang, S. Scudino, Yu.P. Ivanov, R.T. Qu, D. Wang, C. Yang, W.W. Zhang, A.L. Greer, J. Eckert, K.G. Prashanth, "Additive Manufacturing of a Martensitic Co-Cr-Mo Alloy: Towards Circumventing the Strength-Ductility Tradeoff", *Addit. Manuf.* **37**, 101725 (2021).
1207. R. Wang, W. Zhang, Y.H. Li, D.Z. Li, Y. Kang, X.M. Yang, J. Eckert, Z.J. Yan, "Stress-Strain Behavior and Microstructural Evolution of Ultra-High Carbon Fe-C-Cr-V-Mo Steel Subjected to Hot Deformation", *Mater. Charact.* **171**, 110746 (2021).
1208. X.H. Shi, Z.Y. Fan, Z.H. Cao, J.W. Qiao, J. Eckert, "Negative Strain Rate Sensitivity of a Ti-8Al-1Mo-1V Alloy with Bimodal Microstructure under Quasi-Static Compression", *Mater. Lett.* **284**, 128942 (2021).
1209. B. Chen, D.X. Wang, L. Zhang, G.H. Geng, Z.J. Yan, J. Eckert, "Correlation Between the Crystallized Structure of $Mg_{67}Zn_{28}Ca_5$ Amorphous Alloy and the Corrosion Behavior in Simulated Body Fluid", *J. Non-Cryst. Solids* **553**, 120473 (2021).
1210. H.Z. Zhang, H.G. Sun, S.P. Pan, D. Şopu, C.X. Peng, K. Zhao, K.K. Song, S.Z. Yuan, J.C. Qiao, L. Wang, J. Eckert, "Origin of Structural Heterogeneity in Zr-Co-Al Metallic Glasses from the Point of View of Liquid Structures", *J. Non-Cryst. Solids* **553**, 120501 (2021).
1211. M. Stoica, B. Sarac, F. Spieckermann, J. Wright, C. Gammer, J.H. Han, P.F. Gostin, J. Eckert, J.F. Löffler, "X-Ray Diffraction Computed Nanotomography Applied to Solve the Structure of Hierarchically Phase-Separated Metallic Glass", *ACS Nano* **15**, 2386 (2021).

1212. M. Li, J. Tan, X.M. Qin, D.H. Lu, Z.X. Feng, C.J. Li, S.V. Ketov, M. Calin, J. Eckert, "Correlation between Internal States and Creep Resistance in Metallic Glass Thin Films", *J. Appl. Phys.* **129**, 085302 (2021).
1213. T. Karazehir, B. Sarac, H.-D. Gilsing, S. Gumrukcu, J. Eckert, A.S. Sarac, "Functionalized Highly Electron-Rich Redox-Active Electropolymerized 3,4-Propylenedioxythiophenes as Precursors and Targets for Bioelectronics and Supercapacitors"*, Mol. Syst. Des. Eng.* **6**, 214 (2021).
1214. O. Renk, M. Tkadletz, N. Kostoglou, I.E. Gunduz, K. Fezzaa, T. Sun, A. Stark, C.C. Doumanidis, J. Eckert, R. Pippan, C. Mitterer, C. Rebholz, "Synthesis of Bulk Reactive Ni-Al Composites Using High Pressure Torsion", *J. Alloys & Compounds* **857**, 157503 (2021).
1215. O. Renk, V. Maier-Kiener, C. Motz, J. Eckert, D. Kiener, R. Pippan, "How the Interface Type Manipulates the Thermomechanical Response of Nanostructured Metals: A Case Study on Nickel", *Materialia* **15**, 101020 (2021).
1216. D. Şopu, X. Yuan, F. Moitzi, F. Spieckermann, X. Bian, J. Eckert, "From Elastic Excitations to Macroscopic Plasticity in Metallic Glasses", *Appl. Mater. Today* **22**, 100958 (2021).
1217. B. Sarac, T. Karazehir, E. Yüce, M. Mühlbacher, A.S. Sarac, J. Eckert, "Nanoporous Pd-Cu-Si Amorphous Thin Films for Electrochemical Hydrogen Storage and Sensing", *ACS Appl. Energy Mater.* **4**, 2672 (2021).
1218. X. Yuan, D. Şopu, J. Eckert, "Origin of Strain Hardening in Monolithic Metallic Glasses", *Phys. Rev. B* **103**, L140107 (2021).
1219. K.-Y. Wang, J. Xiang, R.-D. Zhao, J.-L. Bi, X.-F. Wu, M.-H. Chen, F.-F. Wu, J. Eckert, "Microstructure Refinement and Enhanced Tensile Properties of Al-11Mg_2Si Alloy Modified by Erbium", *J. Alloys & Compounds* **860**, 158421 (2020).
1220. Y.S. Luo, Z. Wang, J. Eckert, J.W. Qiao, "A Universal Criterion for the Failure Threshold in Slowly Sheared Bulk Metallic Glasses"*, J. Appl. Phys.* **129**, 155109 (2021).
1221. H.P. Sheng, L. Zhang, H.F. Zhang, J.B. Wang, J. Eckert, C. Gammer, "In Situ TEM Observation of Phase Transformation in Bulk Metallic Glass Composites", *Mater. Res. Lett.* **9**, 190 (2021).
1222. K. Nomoto, A.V. Ceguerra, C. Gammer, B.S. Li, H. Bilal, A. Hohenwarter, B. Gludovatz, J. Eckert, S.P. Ringer, J.J. Kruzic, "Medium-Range Order Dictates Local Hardness in Bulk Metallic Glasses", *Mater. Today* **44**, 48 (2021).
1223. P. Wang, F.-H. Chen, J. Eckert, S. Pilz, S. Scudino, K.G. Prashanth, "Microstructural Evolution and Mechanical Properties of Selective Laser Melted Ti-6Al-4V Induced by Annealing Treatment", *J. Central South Univ.* **28**, 1068 (2021).
1224. M. Antoni, F. Spieckermann, V. Soprunyuk, N. Chawake, B. Sarac, J. Zálešák, C. Polak, C. Gammer, R. Pippan, M. Zehetbauer, J. Eckert, "Effect of High Pressure Torsion on Crystallization and Magnetic Properties of $Fe_{73.9}Cu_1Nb_3Si_{15.5}B_{6.6}$", *J. Magn. Magn. Mater.* **525**, 167679 (2021).
1225. W.-P. Wu, D. Şopu, X. Yuan, O. Adjaoud, K.K. Song, J. Eckert, "Atomic Understanding of Creep and Relaxation Mechanisms of $Cu_{64}Zr_{36}$ Metallic Glass at Different Temperatures and Stress Levels"*, J. Non-Cryst. Solids* **559**, 120676 (2021).
1226. B. Sarac, T. Karazehir, M. Micusik, C. Halkali, D. Gutnik, M. Omastova, A.S. Sarac, J. Eckert, "Origin of Electrocatalytic Activity in Amorphous Nickel-Metalloid Electrodeposits", *ACS Appl. Mater. Interfaces* **13**, 23689 (2021).
1227. W.-P. Wu, D. Şopu, J. Eckert, "Molecular Dynamics Study of the Nanoindentation Behavior of $Cu_{64}Zr_{36}$/Cu Amorphous/Crystalline Nanolaminate Composites", *Materials* **14**, 2756 (2021).
1228. S. Gumrukcu, V. Soprunyuk, B. Sarac, E. Yüce, J. Eckert, A.S. Sarac, "Electrospun Polyacrylonitrile/2-(Acryloyloxy)ethyl Ferrocenecarboxylate Polymer Blend Nanofibers", *Mol. Syst. Des. Eng.* **6**, 476 (2021).
1229. V. Zadorozhnyy, V. Soprunyuk, S. Klyamkin, M. Zadorozhnyy, E. Berdonosova, I. Savvotin, A. Stepashkin, A. Korol, A. Kvaratskheliya, D. Semenov, J. Eckert, S.D. Kaloshkin, "Mechanical Spectroscopy of Metal/Polymer Composite Membranes for Hydrogen Separation", *J. Alloys & Compounds* **866**, 159014 (2021).
1230. X.H. Shi, Z.H. Cao, Z.Y. Fan, J. Eckert, J.W. Qiao, "Static Coarsening Behavior of Equiaxed α Phase in Ti-8Al-1Mo-1V Alloy", *Trans. Nonferrous Met. Soc. China* **31**, 1628 (2021).
1231. L.X. Xi, K. Ding, D.D. Gu, S. Guo, M.Z. Cao, J. Zhuang, K.J. Lin, I. Okulov, B. Sarac, J. Eckert,

K.G. Prashanth, "Interfacial Structure and Wear Properties of Selective Laser Melted Ti/(TiC + TiN) Composites with High Content of Reinforcements", *J. Alloys & Compounds* **870**, 159436 (2021).

1232. S.Y. Tang, R. Ummethala, C. Suryanarayana, J. Eckert, K.G. Prashanth, Z. Wang, "Additive Manufacturing of Aluminum-Based Metal Matrix Composites – A Review", *Adv. Eng. Mater.* **23**, 2100053 (2021).
1233. Z.C. Rong, P.D. Hao, M. Tang, P. Chen, F.X. Li, J.H. Yi, D. Şopu, J. Eckert, Y.C. Liu, "First-Principles Study of the Intrinsic Properties of the fcc/hcp-Ti Boundary in Carbon Nanotube/Ti Composites Prepared by High-Pressure Torsion", *Phys. Stat. Sol. B* **258**, 2100093 (2021).
1234. S.V. Ketov, Yu.P. Ivanov, B. Putz, Z. Zhang, J. Eckert, A.L. Greer, "Atomic Diffusivities in Amorphous and Liquid Cu-Zr: Kirkendall Effects and Dependence on Packing Density", *Acta Mater.* **214**, 116993 (2021).
1235. E. Esmaeili, S.A. Rounaghi, J. Eckert, "Mechanochemical Synthesis of Rosin-Modified Montmorillonite: A Breakthrough Approach to the Next Generation of OMMT / Rubber Nanocomposites", *Nanomaterials* **11**, 1974 (2021).
1236. W.M Yang, X.F. Sun, H.S. Liu, C.F. Yu, W.Y. Li, A. Inoue, D. Şopu, J. Eckert, C.G. Tang, "Structural Homology of the Strength for Metallic Glasses", *J. Mater. Sci. Technol.* **81**, 123 (2021).
1237. T. Karazehir, B. Sarac, H.-D. Gilsing, J. Eckert, A.S. Sarac, "Effective Methanol Oxidation with Platinum Nanoparticles-Decorated Poly(2-bromomethyl-2-methyl-3,4-propylenedioxythiophene)-Coated Glassy Carbon Electrode", *J. Electrochem. Soc.* **168**, 086503 (2021).
1238. E. Yüce, B. Sarac, S. Ketov, M. Reissner, J. Eckert, "Effects of Ni and Co Alloying on Thermal, Magnetic and Structural Properties of Fe-(Ni, Co)-P-C Metallic Glass Ribbons", *J. Alloys & Compounds* **872**, 159620 (2021).
1239. B. Sarac, J.T. Kim, Yu.P. Ivanov, V. Soprunyuk, S.V. Ketov, W. Schranz, S.H. Hong, K.B. Kim, A.L. Greer, J. Eckert, "Cryo-Casting for Controlled Nanodecomposition of CuZr-Bulk Metallic Glass into Nanomaterials: Implications for Design Optimization", *ACS Appl. Nano Mater.* **4**, 7771 (2021).
1240. M. Tang, Z.C. Rong, F.X. Li, J.H. Yi, D. J. Eckert, Y.C. Liu, "First-Principles Calculations to Investigate Pressure Effect on Mechanical and Thermal Properties of $ZrAl_2$", *Comput. Theor. Chem.* **1202**, 113304 (2021).
1241. O. Glushko, C. Gammer, L.-M. Weniger, H.P. Sheng, C. Mitterer, J. Eckert, "Morphology of Cracks and Shear Bands in Polymer-Supported Thin Film Metallic Glasses", *Mater. Today Commun.* **28**, 102547 (2021).
1242. L.X. Xi, S. Guo, K. Ding, K.G. Prashanth, B. Sarac, J. Eckert, "Effect of Nanoparticles on Morphology and Size of Primary Silicon and Property of Selective Laser Melted Al-High Si Content Alloys", *Vacuum* **191**, 110405 (2021).
1243. B. Sarac, Yu.P. Ivanov, M. Micusik, T. Karazehir, B. Putz, S. Dancette, M. Omastova, A.L. Greer, A.S. Sarac, J. Eckert, "Enhancement of Interfacial Hydrogen Interactions with Nanoporous Gold-Containing Metallic Glasses", *ACS Appl. Mater. Interfaces* **13**, 42613 (2021).
1244. T. Maity, K.G. Prashanth, Ö. Balçı, G. Cieślak, M. Spychalski, T. Kulik, J. Eckert, "High Entropy Eutectic Composites with High Strength and Low Young's Modulus", *Mat. Design Process. Comm.* **3**, e211 (2021).
1245. F. Akbaripanah, M. Sabbaghian, N. Fakhar, P. Minárik, J. Veselý, P.T. Hung, G. Kapoor, O. Renk, K. Máthis, J. Gubicza, J. Eckert, "Influence of High Pressure Torsion on Microstructure Evolution and Mechanical Properties of AZ80/SiC Magnesium Matrix Composites", *Mater. Sci. Eng. A* **826**, 141916 (2021).
1246. C. Gammer, C. Rentenberger, D. Beitelschmidt, A.M. Minor, J. Eckert, "Direct Observation of Nanocrystal-Induced Enhancement of Tensile Ductility in a Metallic Glass Composite", *Mater. Des.* **209**, 109970 (2021).
1247. B. Sarac, T. Karazehir, E. Yüce, M. Mühlbacher, A.S. Sarac, J. Eckert, "Porosity and Thickness Effect of Pd-Cu-Si Metallic Glasses on Electrocatalytic Hydrogen Production and Storage", *Mater. Des.* **210**, 110099 (2021).

1248. P. Wang, Y. Lei, J.-F. Qi, S.-J. Yu, R. Setchi, M.-W. Wu, J. Eckert, H.-C. Li, S. Scudino, "Wear Behavior of a Heat-Treatable Al-3.5Cu-1.5Mg-1Si Alloy Manufactured by Selective Laser Melting", *Materials* **14**, 7048 (2021).
1249. O. Renk, R. Enzinger, C. Gammer, D. Scheiber, B. Oberdorfer, M. Tkadletz, A. Stark, W. Sprengel, R. Pippan, J. Eckert, L. Romaner, A. Ruban, "Stainless Steel Reveals an Anomaly in Thermal Expansion Behavior of Severely Deformed Materials", *Phys. Rev. Mater.* **5**, 113609 (2021).
1250. S.-Y. Kim, E.-S. Park, J. Eckert, M.-H. Lee, "Role of Effective Strain on the Deformability of Brittle Hf-Based Bulk Metallic Glass", *J. Mater. Res. Technol.* **15**, 6713 (2021).
1251. P.P. Jana, J. Eckert, J. Das, "Effect of Cold Rolling on the Pressure Coefficient of Glass Transition Temperature in Bulk Metallic Glasses", *Thermochim. Acta* **706**, 179071 (2021).
1252. B. Sarac, V. Zadorozhnyy, Yu.P. Ivanov, F. Spieckermann, S. Klyamkin, E. Berdonosova, M. Serov, S. Kaloshkin, A.L. Greer, A.S. Sarac, J. Eckert, "Transition Metal-Based High Entropy Alloy Microfiber Electrodes: Corrosion Behavior and Hydrogen Activity", *Corr. Sci.* **193**, 109880 (2021).
1253. D. Şopu, X. Yuan, J. Eckert, "Annealing Metallic Glasses Above T_g in Order to Accelerate the Relaxation Process in Molecular Dynamics Simulations", *Appl. Phys. Lett.* **120**, 011904 (2022).
1254. F. Spieckermann, D. Şopu, V. Soprunyuk, M.B. Kerber, J. Bednarčik, A. Schökel, A. Rezvan, S. Ketov, B. Sarac, E. Schafler, J. Eckert, "Structure – Dynamics Relationships in Cryogenically Deformed Bulk Metallic Glass", *Nat. Commun.* **13**, 127 (2022).
1255. M. Malekan, R. Rashidi, S.G. Shabestari, J. Eckert, "Thermodynamic and Kinetic Interpretation of the Glass-Forming Ability of Y-Containing Cu-Zr-Al Bulk Metallic Glasses", *J. Non-Cryst. Solids* **576**, 121266 (2022).
1256. Q. Dong, J. Tan, R. Huang, H.L. Wang, P. Song, C.J. Li, Z.X. Feng, M. Calin, J. Eckert, "Nanoindentation Creep Behavior of an Fe-Cr-Mo-B-C Amorphous Coating via Atmospheric Plasma Spraying", *Intermetallics* **141**, 107411 (2022).
1257. B. Sarac, Yu.P. Ivanov, T. Karazehir, M. Mühlbacher, A.S. Sarac, A.L. Greer, J. Eckert, "Multilayer Crystal-Amorphous Pd-Based Nanosheets on Si/SiO_2 with Interface-Controlled Ion Transport for Efficient Hydrogen Storage", *Int. J. Hydrog. Energy* **47**, 6777 (2022).
1258. A.H. Taghvaei, H.S. Nickjeh, P. Ramasamay, J. Eckert, "Synthesis, Thermodynamic Analysis and Magnetic Study of Novel Ball-Milled $Co_{50}Fe_{25}Ta_5Si_5C_{15}$ Glassy Powders with High Thermal Stability", *J. Alloys & Compounds* **894**, 162509 (2022).
1259. X. Yuan, D. Şopu, K.K. Song, J. Eckert, "Relaxation and Strain-Hardening Relationships in Highly Rejuvenated Metallic Glasses", *Materials* **15**, 1702 (2022).
1260. P. Wang, S.J. Yu, J. Shergill, A. Chaubey, J. Eckert, K.G. Prashanth, S. Scudino, "Selective Laser Melting of Al-7Si-0.5Mg-0.5Cu: Effect of Heat Treatment on Microstructue Evolution, Mechanical Properties and Wear Resistance", *Acta Metall. Sin. (Engl. Lett.)* **894**, 162509 (2022).
1261. Z.Q. Zhang, S.V. Ketov, S. Fellner, H.P. Sheng, C. Mitterer, K.K. Song, C. Gammer, J. Eckert, "Reactive Interdiffusion of an Al Film and a CoCrFeNi High-Entropy Alloy", *Mater. Des.* **216**, 110530 (2022).
1262. X. Yuan, D. Şopu, F. Spieckermann, K.K. Song, S.V. Ketov, K.G. Prashanth, J. Eckert, "Maximizing the Degree of Rejuvenation in Metallic Glasses", *Scripta Mater.* **212**, 114575 (2022).
1263. V. Zadorozhnyy, I. Tomilin, E. Berdonosova, C. Gammer, M. Zadorozhnyy, I. Savvotin, I. Shchetinin, M. Zheleznyi, A. Novikov, A. Bazlov, M. Serov, G. Milovzorov, A. Korol, H. Kato, J. Eckert, S. Kaloshkin, S. Klyamkin, "Composition Design, Synthesis and Hydrogen Storage Ability of Multi-Principal-Component Alloy TiVZrNbTa", *J. Alloys & Compounds* **901**, 163638 (2022).
1264. K. Nomoto, B.S. Li, C. Gammer, A.V. Ceguerra, H. Bilal, A. Hohenwarter, J. Eckert, B. Gludovatz, S.P. Ringer, J.J. Kruzic, "Deformation-Induced Medium-Range Order Changes in Bulk Metallic Glasses", *Phys. Rev. Mater.* **6**, 043603 (2022).
1265. Z.C. Rong, J.H. Yi, F.X. Li, Y.C. Liu, J. Eckert, "Thermal Stress Analysis and Structural Optimization of Ladle Nozzle Based on Finite Element Simulation", *Mater. Res. Express* **9**, 045601 (2022).

1266. B. Sarac, T. Karazehir, H.-D. Gilsing, J. Eckert, A.S. Sarac, "Effect of Supporting Electrolyte on Capacitance and Morphology of Electrodeposited Poly(3,4-Polypropylenedioxythiophene) Derivatives Bearing Reactive Functional Groups", *Mol. Syst. Des. Eng.* **7**, 460 (2022).
1267. B. Sarac, J. Eckert, "Thermoplasticity of Metallic Glasses: Processing and Applications", *Prog. Mater. Sci.* **127**, 100941 (2022).
1268. W.-P. Wu, Z.F. Peng, D. Şopu, J. Eckert, "Molecular Dynamics Study of Fracture and Plastic Deformation of Cu/$Cu_{64}Zr_{36}$ Crystalline/Amorphous Composites with a Pre-Existing Void", *J. Non-Cryst. Solids* **586**, 121556 (2022).
1269. M.W. Kapp, O. Renk, J. Eckert, R. Pippan, "The Importance of Lamellar Architecture to Obtain Ductility in Heavily Cold-Worked Pearlitic Steels Revealed by Microbending Experiments", *Acta Mater.* **232**, 117935 (2022).
1270. O. Renk, I. Weißensteiner, M. Cihova, E.-M. Steyskal, N.G. Sommer, M. Tkadletz, S. Pogatscher, P. Schmutz, J. Eckert, P.J. Uggowitzer, R. Pippan, A.M. Weinberg, "Mitigating the Detrimental Effects of Galvanic Corrosion by Nanoscale Architecture Design", *npj Mater. Degrad.* **6**, 47 (2022).
1271. H.P. Sheng, D. Şopu, S. Fellner, J. Eckert, C. Gammer, "Mapping Shear Bands Metallic Glasses: From Atomic Structure to Bulk Dynamics", *Phys. Rev. Lett.* **128**, 245501 (2022).
1272. E. Sharifikolouei, B. Sarac, Y.H. Zheng, P. Bala, J. Eckert, "Fabrication of Stainless-Steel Microfibers with Amorphous-Nanosized Microstructure with Enhanced Mechanical Properties", *Sci. Rep.* **12**, 10784 (2022).
1273. M.R. Hu, X. Sun, B. Li, P. Li, M.C. Xiong, J. Tan, Z.Z. Ye, J. Eckert, C. Liang, H.G. Pan, "Interaction of Metallic Magnesium with Ammonia: Mechanochemical Synthesis of $Mg(NH_2)_2$ for Hydrogen Storage", *J. Alloys & Compounds* **907**, 164397 (2022).
1274. T.B. He, T.W. Lu, D. Şopu, X.L. Han, H.Z. Lu, K. Nielsch, J. Eckert, N. Ciftci, V. Uhlenwinkel, K. Kosiba, S. Scudino, "Mechanical Behavior and Deformation Mechanism of Shape Memory Bulk Metallic Glass Composites Synthesized by Powder Metallurgy", *J. Mater. Sci. Technol.* **114**, 42 (2022).
1275. L.X. Xi, L.L. Feng, D.D. Gu, R.Q. Wang, B. Sarac, K.G. Prashanth, J. Eckert, "ZrC + TiC Synergetically Reinforced Metal Matrix Composites with Micro/Nanoscale Reinforcements Prepared by Laser Powder Bed Fusion", *J. Mater. Res. Technol.* **19**, 4645 (2022).
1276. O. Renk, A. Hohenwarter, C. Gammer, J. Eckert, R. Pippan, "Achieving 1 GPa Fatigue Strength in Nanocrystalline 316L Steel through Recovery Annealing", *Scripta Mater.* **217**, 114773 (2022).
1277. B. Sarac, Yu.P. Ivanov, M. Micusik, M. Omastova, A.S. Sarac, A.I. Bazlov, V. Zadorozhnyy, A.L. Greer, J. Eckert, "Enhanced Oxygen Evolution Reaction of Zr-Cu-Ni-Al Metallic Glass with an Oxide Layer in Alkaline Media", *ACS Catal.* **15**, 9190 (2022).
1278. M.C. Lucchetta, P. Ramasamy, F. Saporiti, J. Eckert, F. Audebert, "Influence of the 1% Ti Content on Microstructure, Friction Coefficient and Contribution to the Strengthening Mechanisms in the Al20Sn1Cu Alloy", *Results Eng.* **15**, 100506 (2022).
1279. W.M. Yang, J.W. Li, H.Y. Li, H.S. Liu, J.Y. Mo, S. Lan, M.Z. Li, X.-L. Wang, J. Eckert, J.T. Hu, "Inheritance Factor on the Physical Properties in Metallic Glasses", *Mater. Futures* **1**, 035601 (2022).
1280. S.L. Lu, Z.J. Zhang, R. Liu, Z. Qu, B. Wang, X.H. Zhou, J. Eckert, Z.F. Zhang, "Prior β Grain Evolution and Phase Transformation of Selective Laser Melted Ti6Al4V Alloy During Heat Treatment", *J. Alloys & Compounds* **914**, 165235 (2022).
1281. B. Sarac, M. Micusik, B. Putz, S. Wurster, E. Sharifikolouei, L.X. Xia, M. Omastova, F. Spieckermann, C. Mitterer, J. Eckert, "Magnetron Sputtered Non-Toxic and Precious Element-Free Ti-Zr-Ge Metallic Glass Nanofilms with Enhanced Biocorrosion Resistance", *Adv. Mater. Interfaces* **9**, 2201223 (2022).
1282. Q. Xu, D. Şopu, X. Yuan, D. Kiener, J. Eckert, "Interface-Related Deformation Phenomena in Metallic Glass / High Entropy Alloy Nanolaminates", *Acta Mater.* **237**, 118191 (2022).
1283. J.F. Qi, C.Y Liu, Z.W. Chen, Z.Y. Liu, J.S. Tian, J. Feng, I.V. Okulov, J. Eckert, P. Wang, "Enhancement in Strength and Thermal Stability of Selective Laser Melted Al-12Si by Introducing Titanium Nanoparticles", *Mater. Sci. Eng. A* **855**, 143833 (2022).

1284. Z.H. Gu, Y.X. Zhou, Q. Dong, G.M. He, J.H. Cui, J. Tan, X.H. Chen, B. Jiang, F.S. Pan, J. Eckert, "Designing Lightweight Multicomponent Magnesium Alloys with Exceptional Strength and High Stiffness", *Mater. Sci. Eng. A* **855**, 143901 (2022).
1285. Q. Zhu, P. Chen, Q.S. Xiao, F.X. Li, J.H. Yi, K.G. Prashanth, J. Eckert, "Mechanical Properties and Microstructural Evolution of Ti-25Nb-6Zr Alloy Fabricated by Spark Plasma Sintering at Different Temperatures", *Metals* **12**, 1824 (2022).
1286. S.L. Lu, Z.J. Zhang, R. Liu, X.H. Zhou, X.G. Wang, B.N. Zhang, X.M. Zhao, J. Eckert, Z.F. Zhang, "Optimal Tensile Properties of Laser Powder Bed Fusion Hereditary Basket-Weave Microstructure in Additive Manufactured Ti6Al4V", *Addit. Manuf.* **59**, 103092 (2022).
1287. E. Yüce, L. Zarazúa-Villalobos, B. Ter-Ovanessian, E. Sharifikolouei, Z. Najmi, F. Spieckermann, J. Eckert, B. Sarac, "New-Generation Biocompatible Ti-Based Metallic Glass Ribbons for Flexible Implants", *Mater. Des.* **223**, 111139 (2022).
1288. X. Yuan, Z.Q. Zhang, Q.W. Gao, L. Zhou, K.K. Song, X.Y. Zou, D. Şopu, L. Hu, B.A. Sun, J. Eckert, "Enhanced Mechanical Properties of $Zr_{65}Cu_{15}Ni_{10}Al_{10}$ Bulk Metallic Glass by Simultaneously Introducing Surface Grooves and Multiple Shear Bands", *J. Mater. Res. Technol.* **21**, 1490 (2022).
1289. A. Rezvan, E. Sharifikolouei, A. Lassnig, V. Soprunyuk, C. Gammer, F. Spieckermann, W. Schranz, Z. Najmi, A. Cochis, A. Calogero Scalia, L. Rimondini, M. Manfredi, J. Eckert, B. Sarac, "Antibacterial Activity, Cytocompatibility, and Thermomechanical Stability of $Ti_{40}Zr_{10}Cu_{36}Pd_{14}$ Bulk Metallic Glass", *Mater. Today Bio* **16**, 100378 (2022).
1290. B. Sarac, A. Kvaratskheliya, V. Zadorozhnyy, Yu.P. Ivanov, S. Klyamkin, L.X. Xi, E. Berdonosova, S. Kaloshkin, M. Zadorozhnyy, J. Eckert, "Transformation of Amorphous Passive Oxide Film on $Zr_{65}Cu_{17.5}Ni_{10}Al_{7.5}$ Metallic Glass Ribbons", *J. Alloys & Compounds* **929**, 167265 (2022).
1291. Y.X. Zhou, H.L. Wang, Q. Dong, J. Tan, X.H. Chen, B. Jiang, F.S. Pan, J. Eckert, "Probing the Stability, Adhesion Strength, and Fracture Mechanism of Mg/Al_2Y Interfaces via First-Principles Calculations", *Mater. Today Commun.* **33**, 104612 (2022).
1292. L. Zhang, T.Y. Yan, D. Şopu, Y. Wu, B.B. Jiang, K. Du, H.F. Zhang, J. Eckert, "Shear-Band Blunting Governs Superior Mechanical Properties of Shape Memory Metallic Glass Composites", *Acta Mater.* **241**, 118422 (2022).
1293. R. Gürbüz, B. Sarac, V. Soprunyuk, A. Rezvan, E. Yüce, W. Schranz, J. Eckert, A. Ozcan, A.S. Sarac, "Carbon Nanotube-Polybutadiene-Poly(Ethylene Oxide)-Based Composite Fibers: Role of Cryogenic Treatment on Intrinsic Properties", *Polym. Adv. Technol.* **33**, 3966 (2022).
1294. F.-F. Cai, B. Sarac, Z. Chen, C. Czibula, F. Spieckermann, J. Eckert, "Surmounting the Thermal Processing Limits: Patterning TiZrCuPdSn Bulk Metallic Glass even with Nanocrystallization", *Mater. Today Adv.* **16**, 100316 (2022).
1295. Y. Xing, C.J. Li, Y.K. Mu, Y.D. Jia, K.K. Song, J. Tan, G. Wang, Z.Q. Zhang, J.H. Yi, J. Eckert, "Strengthening and Deformation Mechanism of High-Strength CrMnFeCoNi High Entropy Alloy Prepared by Powder Metallurgy", *J. Mater. Sci. Technol.* **132**, 119 (2023).

Buchbeiträge

1. L. Schultz, J. Eckert, "Mechanically Alloyed Glassy Metals", in: *"Glassy Metals III - Kapitel 3", (Hrsg. H. Beck, H.J. Güntherodt). Springer Verlag, Berlin - Heidelberg, 1994,* S. 69 ff.
2. J. Eckert, "Structure Formation and Mechanical Behavior of Two-Phase Nanostructured Materials", in: *"Nanostructured Materials – Processing, Properties and Potential Applications", (Hrsg. C.C. Koch). Noyes Publications / William Andrew Publishing, Norwich, NY, USA, 2002*, S. 423 ff; 2nd Edition: *William Andrew Publishing, Norwich, NY, USA, 2007*, S. 565 ff.
3. F. Schurack, J. Eckert, L. Schultz, "Synthesis and Mechanical Properties of Quasicrystalline Al-Based Composites", in: *"Quasicrystals: Structure and Physical Properties", (Ed. H.-R. Trebin). Wiley-VCH Publications, Weinheim*, *2003,* S. 551 ff.
4. J. Eckert, O. Perner, G. Fuchs, K. Nenkov, K.-H. Müller, W. Häßler, C. Fischer, B. Holzapfel, L. Schultz, "High Critical Fields and Currents in Mechanically Alloyed MgB_2", in: *"Advances in Solid State Physics", Vol. 43, (Hrsg. B. Kramer), Springer Verlag, Berlin, 2003,* S. 703 ff.
5. W. Häßler, O. Perner, C. Fischer, K. Nenkov, C. Rodig, M. Schubert, M. Herrmann, L. Schultz, B. Holzapfel, J. Eckert, "Nanocrystalline Microstructure of Mechanically Alloyed MgB_2

Superconductor Precursor Powder for Bulk Tape Fabrication and Implications on the Superconductivity", in: *"Superconductivity Research Horizons", (Hrsg. E.H. Peterson). Nova Science Publ., Inc., Hauppauge, NY, USA, 2007*, S. 193 ff.

6. J. Eckert, J. Das, K.B. Kim, "Nanostructured Composites: Ti-Base Alloys", in: *"The Dekker Encyclopedia of Nanoscience and Nanotechnology", (Hrsg. J.A. Schwarz, C. Contescu, K. Putyera). Marcel Dekker, Inc., New York, NY, USA;2006*, DOI: 10.1081 / E-ENN-120042102.
7. J. Eckert, S. Scudino, "Crystallization of Metallic Glasses", in: *"CRC Materials Processing Handbook", (Hrsg. J.R. Groza, J.F. Shackelford, E.J. Lavernia, M.T. Powers). CRC Press LLC, Taylor & Francis Books LLC, Boca Raton, FL, USA, 2007,* Kapitel 6.
8. K. Werniewicz, U. Kühn, N. Mattern, B. Bartusch, J. Eckert, J. Das, U. Siegel, L. Schultz, T. Kulik, "Novel High-Strength Fe-Based Composite Materials with Large Plasticity", in: *"The World of Bulk Metallic Glasses and their Composites", (Hrsg. C. Fan). Research Signpost, Fort P.O. Trivandrum, Kerala, Indien, 2007*, S. 53 ff.

8. C. Duhamel, S. Venkataraman, S. Scudino, J. Eckert, "Diffusionless Transformations", in: *"Basics of Thermodynamics and Phase Transitions in Complex Intermetallics", Book Series on Complex Metallic Alloys, Vol. 1, (Hrsg. E. Bellin-Ferré). World Scientific Publ., Singapur, 2008,* S. 119 ff.

10. M. Stoica, S. Roth, J. Eckert, G. Vaughan, "Crystallization Behavior and Magnetic Properties of Fe-Based Bulk Metallic Glasses", in: *"Intermetallics Research Progress", (Hrsg. Y.N. Berdovsky). Nova Science Publ., Inc., Hauppauge, NY, USA, 2008*, S. 261 ff.
11. K. Werniewicz, U. Kühn, N. Mattern, B. Bartusch, J. Eckert, U. Siegel, L. Schultz, T. Kulik, "Fe-Based Composite Materials with Improved Mechanical Properties", in: *"Glass Materials Research Progress", (Hrsg. J.C. Wolf, L. Lange). Nova Science Publ., Inc., Hauppauge, NY, USA, 2008*, S. 259 ff.
12. O. Perroud, A. Wiedenmann, M. Stoica, J. Eckert, "Nanosized Magnetization Density Profiles in Hard-Magnetic Nd-Fe-Co-Al Glasses", in: *"Phase Transformations in Multicomponent Melts", (Hrsg. D.M. Herlach). Wiley-VCH, Weinheim, 2008,* S. 263 ff.
13. M. Stoica, G. Kumar, M. Emmi, O. Perroud, A. Wiedenmann, A. Gebert, S. Ram, L. Schultz, J. Eckert, "Microstrcuture and Magnetic Properties of Rapidly Quenched $(Nd_{100-x}Ga_x)Fe_{20}$ (x = 0, 5, 10, and 15 at.%) Alloys", in: *"Phase Transformations in Multicomponent Melts", (Hrsg. D.M. Herlach). Wiley-VCH, Weinheim, 2008,* S. 277 ff.
14. J. Eckert, S. Scudino, M. Stoica, S. Kenzari, M. Sales, "Mechanical Engineering Properties of CMA's", in: *"Complex Metallic Alloys: Fundamentals and Applications", (Hrsg. J.-M. Dubois, E. Bellin-Ferré). Wiley-VCH, Weinheim, 2011,* S. 273 ff.
15. S. Scudino, J. Eckert, "Chapter 3 – Nanocrystalline Metals and Alloys Prepared by Mechanical Attrition", in: *"Nanostructured Metals and Alloys. Processing, Microstructure, Mechanical Properties and Applications", (Hrsg. S.H. Whang). Woodhead Publ. Ltd., Cambridge, UK, 2011,* S. 59 ff.
16. L.-C. Zhang, M. Calin, J. Eckert, "High-Strength Titanium Base Alloys with Multiple Length-Scale Microstructure", in: *"Advances in Mechanical Engineering Research, Vol. 2", (Hrsg. D.E. Malach). Nova Science Publ., Inc., Hauppauge, NY, USA, 2011,* S. 233 ff.
17. C. Kursun, M. Gogebakan, M. Samadi Khoshkhoo, J. Eckert, "Phase Identification and Size Evaluation of Mechanically Alloyed Cu-Mg-Ni Powders", in: *"Nanostructured Materials – Fabrication to Applications", (Hrsg. M.S. Seehra). InTech Publ., Rijeka, Kroatien, 2017,* ISBN: 978-953-51-3372-8 (e-book) und ISBN: 978-953-51-3371-1 (print), S. 47 ff.
18. D. Şopu, M. Stoica, J. Eckert, "Plasticity Enhancement of Composite and Nanoscaled Metallic Glasses", ", in: *"Proc. NIC Symp. 2018", Jülich, 11.-23.02.2008, (Hrsg. K. Binder, M. Müller, A. Trautmann). Publ. Series of the John Neumann Institute for Computing (NIC), Forschungszentrum Jülich GmbH, Zentralbibliothek, Verlag, Jülich, Vol. 49, 2018*, ISBN: 978-3-95806-285-6, S. 281 ff.
19. S.K. Zhang, P. Ma, Y.D. Jia, Z.S. Yu, R. Sokkalingam, X.R. Shi, P.C. Ji, J. Eckert, K.G. Prashanth, "Microstructure and Mechanical Properties of Al-(12-20)Si Bi-Material Fabricated by Selective Laser Melting", in: *"Additive Manufacturing – Alloy Design and Process Innovations", Vol. 1, (Hrsg. P.K. Gokuldoss, Z. Wang). MDPI Publ., Basel, Schweiz, 2020*, ISBN: 978-3-03928-352-1, S. 151 ff.

Bucheditionen& Edition von Tagungsbänden

1. J. Eckert, H. Schlörb, L. Schultz (Hrsg.), "Metastable, Mechanically Alloyed and Nanocrystalline Materials", *Proc. International Symposium on Metastable, Mechanically Alloyed and Nanocrystalline Materials, Dresden, August / September 1999*. *Mater. Sci. Forum.* **343-346** (2000)*, Trans Tech Publications Ltd, Uetikon-Zürich; gleichzeitig als Sonderband J. Metastable and Nanocrystalline Materials* **8** (2000).
2. R. Busch, T.C. Hufnagel, J. Eckert, A. Inoue, W.L. Johnson, A.R. Yavari (Hrsg.), "Amorphous and Nanocrystalline Metals", *Proc. MRS Fall Meeting Symposium 2003, Boston, 01.-05.12.2003. Mater. Res. Soc. Symp. Proc.* **806**, *Mater. Res. Soc., Warrendale, USA* (2004).
3. L. Schultz, J. Eckert, L. Battezzati, M. Stoica (Hrsg.), *"Proc. 13th International Conference on Rapidly Quenched & Metastable Materials (RQ 13)", Dresden, 24.-29.08.2008*. *IOP Publ. Ltd., London. J. Phys.: Conf. Series* **144** (2009). ISSN: 1742-6588 (CD-Rom und Buch).
4. A.V. Granato, G. Gremaud, F.M. Mazzolai, J. Eckert (Hrsg.), *"Proc. 15th International Conference on Internal Friction and Mechanical Spectroscopy", Perugia, Italien, 20.-25.07.2008*. *Elsevier Science, Amsterdam. Sonderband Materials Science and Engineering A* **521-522** (2009). ISSN: 0921-5093.
5. A.M. Jorge, Jr. C. Bolfarini, C.S. Kiminami, J. Eckert, W.J. Botta, (Hrsg.), *"Proc. 14th International Conference on Rapidly Quenched & Metastable Materials (RQ 14)", Salvador, Brasilien, 28.08.-02.09.2011*. *Sonderband Int. J. Mater. Res. (formerly Z. Metallkde)* **103 (9)** (2012).
6. A.M. Jorge, Jr. C. Bolfarini, C.S. Kiminami, J. Eckert, W.J. Botta, (Hrsg.), *"Proc. 14th International Conference on Rapidly Quenched & Metastable Materials (RQ 14)", Salvador, Brasilien, 28.08.-02.09.2011*. *Sonderband Materials Research – Ibero-American Journal of Materials* **15 (5)** (September / Oktober) (2012). ISSN: 1516-1439.
7. L. Wondraczek, J. Deubener, J. Horbach, T. Rouxel, J. Eckert, (Hrsg.), *"Proc. PP 1594: Topological Engineering of Ultrastrong Glasses". Frontiers in Materials, Frontiers Media SA, Lausanne, Schweiz, 2021*, ISBN: 978-2-8896-512-9.

Edition von Journal – Focus Issues

1. M. Li, J. Eckert, L. Kecskes, J.J. Lewandowski (Gast Hrsg. Focus Issue), "Mechanical Properties of Metallic Glasses and Applications", *J. Mater. Res.* **22** (2007).
2. G.L. Messing, J. Eckert, L. Schadler (Gast Hrsg. Special Issue), "Early Career Scholars in Materials Science Annual Issue", *J. Mater. Res.* **31(1)** (2016).
3. G.L. Messing, J. Eckert, L. Schadler (Gast Hrsg. Special Issue), "Early Career Scholars in Materials Science Annual Issue", *J. Mater. Res.* **32(1)** (2017).
4. H. Clemens, J. Eckert, C. Mitterer, C. Schuecker (Gast Hrsg. Special Issue), "Materials Science at the Montanuniversität Leoben", *Adv. Eng. Mater.* **19(4)** (2017).
5. G.L. Messing, S. Bose, J. Eckert, L. Schadler (Guest Eds. Special Issue), "Early Career Scholars in Materials Science Annual Issue", *J. Mater. Res.* **33(1)** (2018).
6. G.L. Messing, S. Bose, J. Eckert, L. Schadler (Guest Eds. Special Issue), "Early Career Scholars in Materials Science Annual Issue", *J. Mater. Res.* **34(1)** (2019).

Referierte Publikationen in Tagungsbänden

1. J. Eckert, L. Schultz, K. Urban, "Compositional Dependence of Glass Formation in Mechanically Alloyed Transition Metal-Transition Metal Alloys", in: *Proc. DGM Conference on New Materials by Mechanical Alloying Techniques, Calw-Hirsau, 1988*, (Hrsg. E. Arzt, L. Schultz). *DGM Informationsgesellschaft, Oberursel,* 1989, S. 85 ff.
2. R. Prümmer, J. Eckert, L. Schultz, "Explosive Compaction of Amorphous Alloys", in: *Proc. International Seminar on High Energy Working of Rapidly Solidified Materials, Novosibirsk, 1988*, (Hrsg. V.F. Nesterenko, A.A. Schtertser), S. 11 ff.
3. J. Eckert, L. Schultz, K. Urban, "Interfacial Reactions and Amorphous Phase Formation in Ni-Zr Composite Wires", in: *Proc. First European Conference on Advanced Materials and Processes, Aachen, 1989*, (Hrsg. H.E. Exner, V. Schumacher). *DGM Informationsgesellschaft, Oberursel,* 1991, S. 1043 ff.

4. J. Eckert, "Milling Induced Phase Transitions and Quasicrystal Formation in Al-Cu-Based Alloys", in: *"Mechanical Alloying"*, (Hrsg. P.H. Shingu). *Mater. Sci. Forum* **88-90**, 679 (1992).
5. J. Eckert, J.C. Holzer, C.E. Krill III, W.L. Johnson, "Investigation of Nanometer-Sized fcc Metals Prepared by Ball Milling", in: *"Mechanical Alloying"*, (Hrsg. P.H. Shingu). *Mater. Sci. Forum* **88-90**, 505 (1992).
6. J. Eckert, R. Birringer, J.C. Holzer, C.E. Krill III, W.L. Johnson, "Alloy Effects and Extended Solubilities in Binary Mixtures of Nanometer-Sized Fe-Cu Crystals", in: *"Structure and Properties of Interfaces in Materials"*, (Hrsg. W.A.T. Clark, C.L. Briant, U. Dahmen). *Mater. Res. Soc. Symp. Proc.* **238**, 739 (1992).
7. J. Eckert, J.C. Holzer, C.E. Krill III, W.L. Johnson, "Synthesis and Characterization of Ball-Milled Nanocrystalline fcc Metals", in: *"Structure and Properties of Interfaces in Materials"*, (Hrsg. W.A.T. Clark, C.L. Briant, U. Dahmen). *Mater. Res. Soc. Symp. Proc.* **238**, 745 (1992).
8. J. Eckert, Y.R. Abe, Z. Fu, W.L. Johnson, "Minimum Grain Size in Nanocrystalline Metal Powders", in: *"Chemical Processes in Inorganic Materials: Metal and Semiconductor Clusters and Colloids*", (Hrsg. P.D. Persans, J.S. Bradley, R.R. Chianelli, G. Schmid*). Mater. Res. Soc. Symp. Proc.* **272**, 271 (1992).
9. J.C. Holzer, R. Birringer, J. Eckert, C.E. Krill III, W.L. Johnson, "Relaxation and Grain Growth Behavior of Nanocrystalline Iron", in: *"Chemical Processes in Inorganic Materials: Metal and Semiconductor Clusters and Colloids"*, (Hrsg. . P.D. Persans, J.S. Bradley, R.R. Chianelli, G. Schmid*). Mater. Res. Soc. Symp. Proc.* **272**, 283 (1992).
10. C.C. Ahn, L. Hong, J. Eckert, B. Fultz, W.L. Johnson, "Energy Filtered Imaging of Nanophase Materials", in: *Proc. 50th Annual Meeting of the Electron Microscopy Society of America, Boston, 1992,* (Hrsg. G.W. Bailey, J. Bentley, J.A. Small). *San Francisco Press, Inc., San Francisco*, 1992, S. 1196 ff.
11. W. Zimmermann, J. Eckert, "Heat Treatment of P/M Parts - Mechanical Properties and Tolerances", in: *Proc. 1993 Powder Metallurgy World Congress, Kyoto, Juli 1993,* (Hrsg. Y. Bando, K. Kosuge). *Japan Society of Powder and Powder Metallurgy,* 1993, S. 427 ff.
12. M. Seidel, J. Eckert, H.-D. Bauer, L. Schultz, "Formation of Amorphous and Nanocrystalline Phases in Mechanically Alloyed Zr-, Al-, and Mg-Base Transition Metal Alloys", in: *"Grain Size and Mechanical Properties - Fundamentals and Applications*", (Hrsg. M.A. Otooni, R.W. Armstrong, N.J. Grant, K. Ishizaki). *Mater. Res. Soc. Symp. Proc.* **362**, 239 (1995).
13. M. Seidel, J. Eckert, L. Schultz, "Mechanically Alloyed Metallic Glasses with Significant Supercooled Liquid Region", in: *Proc. 4th European Conference on Advanced Materials and Processes, Venedig/ Padua, September 1995,* S. 277 ff.
14. C. Stiller, J. Eckert, S. Roth, R. Schäfer, U. Klement, L. Schultz, "Structural and Magnetic Properties of Mechanically Alloyed Fe-TM-B-Based Alloys (TM = Zr, Nb)", in: *Proc. 4th European Conference on Advanced Materials and Processes, Venedig/Padua, September 1995,* S. 271 ff.
15. J. Eckert, M. Seidel, L. Schultz, "Mechanically Alloyed Amorphous and Nanocrystalline Zr-, Mg- and Al-Based Light Metals Alloys", in: *Proc. 1995 European Conference on Advanced PM Materials, Birmingham, October 1995. European Powder Metallurgy Association, Shrewsbury,* 1995, S. 216 ff.
16. J. Eckert, I. Börner, "Synthesis and Properties of Nanocrystalline NiAl Prepared by Mechanical Attrition", in: *Proc. 1995 European Conference on Advanced PM Materials, Birmingham, Oktober 1995. European Powder Metallurgy Association, Shrewsbury,* 1995, S. 525 ff.
17. J. Eckert, M. Seidel, L. Schultz, "Bulk Metallic Glasses with Significant Supercooled Liquid Region Prepared by Mechanical Alloying",in: *"Metastable, Mechanically Alloyed and Nanocrystalline Materials"*, (Hrsg. R. Schulz). *Mater. Sci. Forum* **225-227**, 113 (1996).
18. M. Seidel, J. Eckert, H.-D. Bauer, L. Schultz, "Mechanically Alloyed Zr-Based Metallic Glasses with Significant Supercooled Liquid Region", in: *"Metastable, Mechanically Alloyed and Nanocrystalline Materials"*, (Hrsg. R. Schulz). *Mater. Sci. Forum* **225-227**, 119 (1996).
19. C. Stiller, J. Eckert, S. Roth, R. Schäfer, U. Klement, L. Schultz, "The Influence of Alloy Composition and Thermal Treatment on Structural and Magnetic Properties of Mechanically Alloyed Fe-Transition Metal-Based Alloys", in: *"Metastable, Mechanically Alloyed and Nanocrystalline Materials"*, (Hrsg. R. Schulz). *Mater. Sci Forum* **225-227**, 695 (1996).

20. I. Börner, J. Eckert, "Structural Properties and Compositional Dependence of Grain Size in Heavily Mechanically Deformed Nanophase NiAl", in: *"Metastable, Mechanically Alloyed and Nanocrystalline Materials"*, (Hrsg. R. Schulz). *Mater Sci. Forum* **225-227**, 377 (1996).
21. J. Eckert, M. Seidel, N. Schlorke, A. Kübler, L. Schultz, "Solid State Processing of Bulk Metallic Glass Forming Alloys", in: *"Synthesis and Properties of Mechanically Alloyed and Nanocrystalline Materials"*, (Hrsg. D. Fiorani, M. Magini). *Mater. Sci. Forum* **235-238**, 23 (1997).
22. M. Seidel, J. Eckert, L. Schultz, "The Effect of Milling Conditions and Impurities on the Properties of Mechanically Alloyed Zr-Based Metallic Glasses with Wide Supercooled Liquid Region", in: *"Synthesis and Properties of Mechanically Alloyed and Nanocrystalline Materials"*, (Hrsg. D. Fiorani, M. Magini). *Mater. Sci. Forum* **235-238**, 29 (1997).
23. I. Börner, J. Eckert, "Grain Size Effects and Consolidation in Ball-Milled Nanocrystalline NiAl", in: *"Synthesis and Properties of Mechanically Alloyed and Nanocrystalline Materials"*, (Hrsg. D. Fiorani, M. Magini). *Mater. Sci. Forum* **235-238**, 79 (1997).
24. J. Eckert, K. Jost, O. de Haas, L. Schultz, "Phase Formation and Properties in Mechanically Alloyed and Ball Milled RE-TM-Borocarbides", in: *"Synthesis and Properties of Mechanically Alloyed and Nanocrystalline Materials"*, (Hrsg. D. Fiorani, M. Magini). *Mater. Sci. Forum* **235-238**, 133 (1997).
25. C. Stiller, J. Eckert, R. Schäfer, S. Roth, L. Schultz, "The Influence of Processing Conditions on the Microstructure and the Magnetic Properties of Fe-Zr-Cu-(B)-Based Alloys Prepared by Mechanical Attrition", in: *"Synthesis and Properties of Mechanically Alloyed and Nanocrystalline Materials"*, (Hrsg. D. Fiorani, M. Magini). *Mater. Sci. Forum* **235-238**, 777 (1997).
26. J. Eckert, N. Mattern, M. Seidel, L. Schultz, "The Effect of Iron and Oxygen Additions on the Properties of Zr-Al-Cu-Ni Bulk Metallic Glass Forming Alloys", in: *"Structure and Dynamics of Glasses and Glass Formers*", (Hrsg. C.A. Angell, K.L. Ngai, J. Kieffer, T. Egami, G.U. Nienhaus). *Mater. Res. Soc. Symp. Proc.* **455***,* 465 (1997).
27. N. Schlorke, J. Eckert, L. Schultz, "Formation and Properties of Amorphous and Nanocrystalline Phases in Mechanically Alloyed Fe-Based Multicomponent Alloys", in: *"Structure and Dynamics of Glasses and Glass Formers*", (Hrsg. C.A. Angell, K.L. Ngai, J. Kieffer, T. Egami, G.U. Nienhaus). *Mater. Res. Soc. Symp. Proc.* **455***,* 507 (1997).
28. J. Eckert, N. Schlorke, C.A. R.T. Miranda, L. Schultz, "Phase Formation and Properties of Mechanically Alloyed Mg-Based Multicomponent Lightweight Alloys", in: *"Synthesis and Processing of Light Weight Metallic Materials II",* (Hrsg. C.M. Ward-Close, F.H. Froes, D.J. Chellman, S.S. Cho). *TMS International, Warrendale 1997,* S. 383 ff.
29. C. Stiller, E. Wu, S.J. Campbell, A. Kerr, W.A. Kaczmarek, J.S. Williams, J. Eckert, L. Schultz, "Mechanically Alloyed and Rapidly Quenched Fe-Zr-B-Cu: Mössbauer Investigations", in: *"Mechanically Alloyed, Metastable and Nanocrystalline Materials"*, (Hrsg. M.D. Baró, S. Suriñach). *Mater. Sci. Forum* **269-272**, 425 (1998).
30. R. Lin, M. Seidel, J.Z. Jiang, J. Eckert, "Structure and Thermal Stability of Glassy $(Zr_{65}Al_{7.5}Cu_{17.5}Ni_{10})_{100-x}Fe_x$ ($x \leq 20$) Alloys Prepared by Mechanical Alloying", in: *"Mechanically Alloyed, Metastable and Nanocrystalline Materials"*, (Hrsg. M.D. Baró, S. Suriñach). *Mater. Sci. Forum* **269-272**, 461 (1998).
31. N. Schlorke, J. Eckert, L. Schultz, "Formation and Stability of Bulk Metallic Glass Forming Mg-Y-Cu Alloys Produced by Mechanical Alloying and Rapid Quenching", in: *"Mechanically Alloyed, Metastable and Nanocrystalline Materials"*, (Hrsg. M.D. Baró, S. Suriñach). *Mater. Sci. Forum* **269-272**, 761 (1998).
32. A. Kübler, J. Eckert, A. Kirchner, L. Schultz, "Thermal Stability and Consolidation Behavior of Mechanically Alloyed $Zr_{65}Al_{7.5}Cu_{17.5}Ni_{10}$ Powder with Different Oxygen and Iron Content", in: *"Mechanically Alloyed, Metastable and Nanocrystalline Materials"*, (Hrsg. M.D. Baró, S. Suriñach). *Mater. Sci. Forum* **269-272**, 767 (1998).
33. L.Q. Xing, M. Cornet, J. Eckert, "Nanocrystalline Transformation in Zr-Ti-Al-Cu-Ni Bulk Amorphous Alloys", in: *"Mechanically Alloyed, Metastable and Nanocrystalline Materials"*, (Hrsg. M.D. Baró, S. Suriñach). *Mater. Sci. Forum* **269-272**, 785 (1998).
34. A. Gebert, J. Eckert, H.-D. Bauer, L. Schultz, "Characteristics of Slowly Cooled Zr-Al-Cu-Ni Bulk Samples with Different Oxygen Content", in: *"Mechanically Alloyed, Metastable and*

Nanocrystalline Materials", (Hrsg. M.D. Baró, S. Suriñach). *Mater. Sci. Forum* **269-272**, 797 (1998).

35. N. Schlorke, J. Eckert, L. Schultz, "Synthesis and Properties of Bulk Metallic Mg-Y-Cu Light-weight Alloys Produced by Mechanical Alloying and Rapid Quenching", in: *Proc. International Conference on Magnesium Alloys and Their Applications, Wolfsburg, April 1998*, (Hrsg. B.L. Mordike, K.U. Kainer). *Werkstoff-Informationsgesellschaft mbH, Frankfurt 1998,* S. 533 ff.
36. J. Eckert, N. Schlorke, L. Schultz, "Mg-Based Lightweight Alloys Prepared by Mechanical Attrition and Consolidation in the Viscous State", in: *Proc. 1998 Powder Metallurgy World Congress Vol. 1, Granada, Oktober 1998. European Powder Metallurgy Association, Shrewsbury,* 1998, S. 311 ff.
37. A. Leonhard, M. Heilmaier, J. Eckert, L. Schultz, "Creep Behavior of Bulk Amorphous and Partially Crystalline Zr-Base Alloys", in: *"Creep Behavior of Advanced Materials for the 21st Century*", (Hrsg. R.S. Mishra, A.K. Mukherjee, K.L. Murty). *TMS International, Warrendale 1999,* S. 41 ff.
38. L. Ledig, D. Hough, C.-G. Oertel, W. Skrotzki, J. Eckert, "Phase Formation, Stability and Superconducting Properties of Mechanically Alloyed Yttrium-Nickel-Borocarbides", in: *"Solid State Chemistry of Inorganic Materials II",* (Hrsg. E.M. McCarron III, H.-C. zur Loye, S.M. Kauzlarich, A.W. Sleight). *Mater. Res. Soc. Symp. Proc.* **547***,* 463 (1999).
39. H. Saage, M. Heilmaier, J. Eckert, L. Schultz, "Microstructural Evolution during Mechanical Milling and Consolidation of ODS $L1_2$-$(Al, Cr)_3Ti$", in: *"High-Temperature Ordered Intermetallic Alloys VIII",* (Hrsg. E.P. George, M.J. Mills, M. Yamaguchi,). *Mater. Res. Soc. Symp. Proc.* **552***,* KK8.34.1 (1999).
40. W. Hoffmann, M. Baenitz, K. Lüders, A. Gebert, J. Eckert, L. Schultz, "NMR Investigations of the Bulk Metallic Glass $Zr_{55}Cu_{30}Al_{10}Ni_5$", in: *"Bulk Metallic Glasses*", (Hrsg. W.L. Johnson, A. Inoue, C.T. Liu). *Mater. Res. Soc. Symp. Proc.* **554**, 95 (1999).
41. A. Leonhard, M. Heilmaier, J. Eckert, L. Schultz, "Deformation Behavior of Bulk Amorphous Zr-Base Alloys", in: *"Bulk Metallic Glasses*", (Hrsg. W.L. Johnson, A. Inoue, C.T. Liu). *Mater. Res. Soc. Symp. Proc.* **554**, 137 (1999).
42. K. Buchholz, A. Gebert, K. Mummert, J. Eckert, L. Schultz, "Investigations on the Electro-chemical Behavior of Zr-Al-Cu-Ni Bulk Metallic Glass", in: *"Bulk Metallic Glasses",* (Hrsg. W.L. Johnson, A. Inoue, C.T. Liu). *Mater. Res. Soc. Symp. Proc.* **554**, 161 (1999).
43. W. Skrotzki, B. Müller, L. Ledig, D. Hough, C.-G. Oertel, A. Gümbel, J. Eckert, "Amorphous/ Nanocrystalline Quaternary Borocarbides - Structure and Superconductivity", in: *Proc. Workshop on "Properties of Non-Crystalline Materials - Experimental Data and Structural Models", Jena, September 1999*.
44. B.S.S. Daniel, A. Reger-Leonhard, M. Heilmaier, J. Eckert, L. Schultz, "High Temperature Creep and Relaxation Behaviour of $Zr_{55}Cu_{30}Al_{10}Ni_5$ Bulk Metallic Glass", in: *Proc. 3rd Int. Conf. on Mechanics of Time Dependent Materials, Erlangen, September 2000*, (Hrsg. H. Münstedt, C. Gabriel, S. Rettenberger)*,* S. 100 ff.
45. F. Schurack, J. Eckert, L. Schultz, "Processing and Mechanical Properties of Quasicrystal-Reinforced Al-Alloys", in: *"Quasicrystals - Preparation, Properties and Applications"*, (Hrsg. E. Belin-Ferré, P.A. Thiel, A.-P. Tsai, K. Urban). *Mater. Res. Soc. Symp. Proc.* **643**, K9.11.1 (2001).
46. B.S.S. Daniel, M. Heilmaier, A. Reger-Leonhard, J. Eckert, L. Schultz, "On the High Temperature Creep and Relaxation Behaviour of Zr-Based Bulk Metallic Glasses", in: *"Supercooled Liquid, Bulk Glassy and Nanocrystalline States of Alloys"*, (Hrsg. A. Inoue, A.R. Yavari, W.L. Johnson, R.H. Dauskardt). *Mater. Res. Soc. Symp. Proc.* **644**, L.10.7.1 (2001).
47. U. Kühn, J. Eckert, N. Mattern, L. Schultz, "Glass and Quasicrystal Formation in a Zr-Based Multicomponent Alloy", in: *"Supercooled Liquid, Bulk Glassy and Nanocrystalline States of Alloys"*, (Hrsg. A. Inoue, A.R. Yavari, W.L. Johnson, R.H. Dauskardt). *Mater. Res. Soc. Symp.* **644**, L.12.8.1 (2001).
48. G. Kumar, J. Eckert, L.Q. Xing, A. Güth, S. Roth, W. Löser, S. Ram, "Effect of Preparation on Glass Formation and Magnetic Properties of Nd-Fe-Co-Al-B Alloys", in: *"Supercooled Liquid, Bulk Glassy and Nanocrystalline States of Alloys"*, (Hrsg. A. Inoue, A.R. Yavari, W.L. Johnson, R.H. Dauskardt). *Mater. Res. Soc. Symp. Proc.* **644**, L.12.14.1 (2001).
49. N. Mattern, J. Neuefeind, U. Kühn, M. Zinkevitch, H. Hermann, J. Eckert, "Short-Range Order and Crystallization Behavior of Zr-Based Bulk Amorphous Alloys", in: *Proc. Int. Conf. on*

Processing and Manufacturing of Advanced Materials THERMEC 2000, Las Vegas, Dezember 2000 (Hrsg. T. Chandra, K. Higashi, C. Suryanarayana, C. Tome). CD-ROM, Section D3, *Elsevier Science, Amsterdam,* 2001, D03_04; Special Issue *J. Mater. Proc. Technol*. **117/3** (2001).

50. G. David, S. Roth, J. Eckert, L. Schultz, "Extraction of Boron from $Fe_{80}B_{20}$ Ribbons by Annealing under Hydrogen Flow", in: *Proc. Int. Conf. on Processing and Manufacturing of Advanced Materials THERMEC 2000, Las Vegas, Dezember 2000* (Hrsg. T. Chandra, K. Higashi, C. Suryanarayana, C. Tome). CD-ROM, Section D3, *Elsevier Science, Amsterdam,* 2001, D03_10; Special Issue *J. Mater. Proc. Technol*. **117/3** (2001).
51. P. Crespo, M.C. Alocén, M. Multigner, P. Agudo, A. Hernando, A. García-Escorial, J. Eckert, S. Roth, L. Schultz, "Amorphization in the (FeCu)Zr System by Mechanical Alloying", in: *Proc. Int. Conf. on Trends in Mechanical Alloying: Science, Technology & Applications, Jaipur, Februar 2001,* (Hrsg. C.P. Joshi, P. Ramakrishnan, P.R. Soni, T.V. Rajan).
52. U. Wolff, A. Gebert, J. Eckert, L. Schultz, "Electrode Behaviour of a Zr-Ti-Al-Cu-Ni Alloy at Different Microstructural States", in: *Proc. Europ. Conf. on Advanced Materials, Processes and Applications (EUROMAT 2001), Rimini, Juni 2001*. CD-ROM, *Associazione Italiana di Metallurgia, Milano,* 2001.
53. V.V. Tcherdyntsev, S.D. Kaloshkin, A.I. Salimon, E.A. Leonova, I.A. Tomilin, J. Eckert, F. Schurack, V.D. Rogozin, S.P. Pisarev, Yu.P. Trykov, "Quasicrystalline Phase Formation in Mechanically Alloyed Al-Cu-Fe Compositions", in: *Proc. Europ. Conf. on Advanced Materials, Processes and Applications (EUROMAT 2001), Rimini, Juni 2001*. CD-ROM, *Associazione Italiana di Metallurgia, Milano,* 2001.
54. G. Kumar, J. Eckert, S. Roth, W. Löser, S. Ram, L. Schultz, "Formation of Cluster Structure and Phase Separation in Cast Nd-Fe-Co-Al Alloys", in: *Proc. 22nd Risø Int. Symp. on Materials Science: Science of Metastable, and Nanocrystalline Alloys - Structure, Properties and Modelling, Roskilde, September 2001*, (Hrsg. A.R. Dinesen, M. Eldrup, D. Juul Jensen, S. Linderoth, T.B. Pedersen, N.H. Pryds, A. Schrøder Pedersen, J.A. Wert). *Risø National Laboratory, Roskilde,* 2001, S. 307 ff.
55. N. Mattern, U. Kühn, J. Eckert, "Structure Formation and Crystallization of $Zr_{62-x}Ti_xAl_{10}Cu_{20}Ni_8$ Bulk Metallic Glasses", in: *Proc. 22nd Risø Int. Symp. on Materials Science: Science of Metastable, and Nanocrystalline Alloys - Structure, Properties and Modelling, Roskilde, September 2001*, (Hrsg. A.R. Dinesen, M. Eldrup, D. Juul Jensen, S. Linderoth, T.B. Pedersen, N.H. Pryds, A. Schrøder Pedersen, J.A. Wert). *Risø National Laboratory, Roskilde,* 2001, S. 323 ff.
56. U. Wolff, A. Gebert, M. Savyak, J. Eckert, L. Schultz, "Stability and Electrochemical Properties of $Mg_{65}Y_{10}Cu_{25}$ Metallic Glass", in: *Proc. 22nd Risø Int. Symp. on Materials Science: Science of Metastable, and Nanocrystalline Alloys - Structure, Properties and Modelling, Roskilde, September 2001*, (Hrsg. A.R. Dinesen, M. Eldrup, D. Juul Jensen, S. Linderoth, T.B. Pedersen, N.H. Pryds, A. Schrøder Pedersen, J.A. Wert). *Risø National Laboratory, Roskilde,* 2001, S. 441 ff.
57. A. Gebert, U. Wolff, M. Savyak, J. Eckert, "Electrochemical Properties of Bulk Glass-Forming Mg-Based Alloys", in: *Proc. 7th All-Polish Corrosion Symposium, Poraj, November 2001,* 2001, S. 3 ff.
58. J. Eckert, U. Kühn, U. Wolff, A. Gebert, "Synthesis and Properties of Amorphous and Quasicrystalline Zr-Ti/Nb-Al-Cu-Ni Alloys", in: *Proc. 4th Pacific Rim Int. Conf. on Advanced Materials and Processing PRICM-4, Honolulu, Dezember 2001,* (Hrsg. S. Hanada, Z. Zhong, S.W. Nam, R.N. Wright). *The Japan Institute of Metals, Tokyo,* 2001, S. 103 ff.
59. J. Eckert, F. Schurack, I. Börner, "High Strength Nanostructured Aluminum Alloys Based on Quasicrystalline or Amorphous Phases", in: *Proc. 10th Int. Symp. on Processing and Fabrication of Advanced Materials PFAM-X, Indianapolis, November 2001,* (Hrsg. T.S. Srivatsan, R.A. Varin). *ASM International, Materials Park, OH,* 2002, S. 19 ff.
60. M. Heilmaier, U. Grundmann, H. Saage, J. Eckert, "Novel Oxide Dispersion Strengthened Alloys Produced by Mechanical Alloying", in: *Proc. 10th Int. Symp. on Processing and Fabrication of Advanced Materials PFAM-X, Indianapolis, November 2001,* (Hrsg. T.S. Srivatsan, R.A. Varin). *ASM International, Materials Park, OH,* 2002, S. 241 ff.
61. Z.F. Zhang, Z.G. Wang, J. Eckert, L. Schultz, "Fatigue Cracking Behavior of a Special Copper Bicrystal with Common Primary Slip Plane", in: *Fatigue 2002 - Proc. 8th Int. Fatigue Congress Fatigue 2002, Stockholm, Juni 2002,* (Hrsg. A.F. Blom). *Engineering Materials Advisory Service Ltd., West Midlands, UK,* 2002, S. 1649 ff.

62. R. Sato Turtelli, D. Triyono, R. Grössinger, K.R. Pirota, M. Knobel, P. Kerschl, J. Eckert, S. Kato, "Temperature Dependence of the Magnetic Relaxation of $Nd_{60}Fe_{30}Al_{10}$ and $Nd_{60}Fe_{20}Co_{10}Al_{10}$ Alloys", in: *Proc. 17th Int. Workshop on Rare Earth Magnets and Their Applications, Newark, USA, August 2002,* (Hrsg. G.C. Hadjipanayis, M.J. Bonder). *Rinton Press, Inc., Princeton, NJ*, 2002, S. 161 ff.
63. W. Skrotzki, C.-G. Oertel, L. Ledig, D. Hough, J. Eckert, "Amorphization and Nanocrystallization of Quaternary Borocarbide Superconductors", in: *Proc. Workshop on "Structure and Kinetics of Nucleation and Crystallization in Non-Crystalline Materials", Jena, September 2002.*
64. S. Roth, M. Stoica, J. Degmova, H. Grahl, J. Eckert, L. Schultz, "Measurement of Soft Magnetic Properties of Iron-Based Bulk Amorphous Alloys", in: *Proc. 7th Int. Workshop on 1&2 Dimensional Magnetic Measurement and Testing, Lüdenscheid, September 2002,* (Hrsg. J. Sievert). *PTB Berichte – Wissenschaftliche Veröffentlichungen PTB-E-81, Braunschweig,* 2003, S. 31 ff.
65. J. Eckert, U. Kühn, N. Mattern, N. Radtke, "Bulk Metallic Glass-Based Composites with Different Size of Second Phase Particles", in: *Proc. 11th Int. Symp. on Processing and Fabrication of Advanced Materials PFAM-XI, Columbus, Oktober 2002,* (Hrsg. T.S. Srivatsan, R.A. Varin). *ASM International, Materials Park, OH*, 2003, S. 465 ff.
66. M.A. Bab, L.C. Damonte, L.A. Mandoza-Zélis, S. Deledda, J. Eckert, "Nanocrystalline ZrN Particles Embedded in Zr-Fe-Cu-Al-Ni Amorphous Matrix", in: *"Supercooled Liquids, Glass Transition and Bulk Metallic Glasses"*, (Hrsg. T. Egami, A.L. Greer, A. Inoue, S. Ranganathan). *Mater. Res. Soc. Symp. Proc. Proc.* **754**, 211 (2003).
67. B.S.S. Daniel, M. Heilmaier, B. Bartusch, J. Kanzow, K. Günther-Schade, K. Rätzke, J. Eckert, F. Faupel, "Free Volume Evolution in Bulk Metallic Glass during High Temperature Creep", in: *"Supercooled Liquids, Glass Transition and Bulk Metallic Glasses"*, (Hrsg. T. Egami, A.L. Greer, A. Inoue, S. Ranganathan). *Mater. Res. Soc. Symp. Proc. Proc.* **754**, 293 (2003).
68. G. He, J. Eckert, W. Löser, L. Schultz, "Ductile Dendritic Phase Reinforced Ti-Base Bulk Metallic Glass-Forming Alloys", in: *"Supercooled Liquids, Glass Transition and Bulk Metallic Glasses"*, (Hrsg. T. Egami, A.L. Greer, A. Inoue, S. Ranganathan). *Mater. Res. Soc. Symp. Proc. Proc.* **754**, 327 (2003).
69. U. Kühn, J. Eckert, N. Mattern, N. Radtke, L. Schultz, "Microstructure and Mechanical Properties of Slowly Cooled $Zr_{66.4}Nb_{6.4}Cu_{10.5}Ni_{8.7}Al_{8.0}$ with Ductile bcc Phase ", in: *"Supercooled Liquids, Glass Transition and Bulk Metallic Glasses"*, (Hrsg. T. Egami, A.L. Greer, A. Inoue, S. Ranganathan). *Mater. Res. Soc. Symp. Proc. Proc.* **754**, 333 (2003).
70. S. Deledda, J. Eckert, L. Schultz, " Crystallization Behavior of Mechanically Alloyed Zr-Cu-Al-Ni Glass Composites Containing Second-Phase ZrC Particles", in: *"Supercooled Liquids, Glass Transition and Bulk Metallic Glasses"*, (Hrsg. T. Egami, A.L. Greer, A. Inoue, S. Ranganathan). *Mater. Res. Soc. Symp. Proc. Proc.* **754**, 385 (2003).
71. A. Handstein, J. Eckert, C. Fischer, G. Fuchs, O. Gutfleisch, W. Häßler, D. Hinz, B. Holzapfel, V. Narozhnyi, K. Nenkov, O. Perner, K.-H. Müller, L. Schultz, "Critical Currents in Bulk MgB_2 Superconductors", in: *Proc. 12th Int. Symp. on Processing and Fabrication of Advanced Materials PFAM-XII, Pittsburgh, Oktober 2003,* (Hrsg. T.S. Srivatsan, R.A. Varin). *ASM International, Materials Park, OH*, 2004, S. 3 ff.
72. H. Breitzke, K. Lüders, S. Scudino, J. Eckert, U. Kühn, "Medium-Range Order and Crystallization in $Zr_{59}Cu_{30}Al_{10}Ni_8Ti_3$ and $Zr_{57}Cu_{20}Al_{10}Ni_8Ti_5$ Metallic Glasses Investigated by NMR", in: *"Amorphous and Nanocrystalline Metals"*, (Hrsg. R. Busch, T.C. Hufnagel, J. Eckert, A. Inoue, W.L. Johnson, A.R. Yavari). *Mater. Res. Soc. Symp. Proc.* **806**, 57 (2004).
73. S. Scudino, J. Eckert, U. Kühn, H. Breitzke, K. Lüders, L. Schultz, "Influence of Al on Quasicrystal Formation in Zr-Ti-Nb-Cu-Ni-Al Metallic Glasses", in: *"Amorphous and Nanocrystalline Metals"*, (Hrsg. R. Busch, T.C. Hufnagel, J. Eckert, A. Inoue, W.L. Johnson, A.R. Yavari). *Mater. Res. Soc. Symp. Proc.* **806**, 83 (2004).
74. E.A. Rozhkova, X.Y. Yang, P.B. Wheelock, J. Eckert, U. Kühn, D.J. Sordelet, "Formation of High-Strength Zr-Nb-Cu-Ni-Al Alloys by Warm Extrusion of Gas Atomized Powders", in: *"Amorphous and Nanocrystalline Metals"*, (Hrsg. R. Busch, T.C. Hufnagel, J. Eckert, A. Inoue, W.L. Johnson, A.R. Yavari). *Mater. Res. Soc. Symp. Proc.* **806**, 127 (2004).
75. N. Radtke, J. Eckert, U. Kühn, M. Stoica, L. Schultz, "Microstructure, Thermal Stability and Mechanical Properties of Slowly Cooled Zr-Based Composites Containing Dendritic bcc Phase

Precipitates", in: *"Amorphous and Nanocrystalline Metals"*, (Hrsg. R. Busch, T.C. Hufnagel, J. Eckert, A. Inoue, W.L. Johnson, A.R. Yavari). *Mater. Res. Soc. Symp. Proc.* **806**, 189 (2004).

76. G. Kumar, J. Eckert, W. Löser, P. Schilling, E. Ma, C. Mickel, L. Schultz, "TEM and XAS Characterization of Hard Magnetic Phase in Nd-Fe Alloys", in: *"Amorphous and Nanocrystalline Metals"*, (Hrsg. R. Busch, T.C. Hufnagel, J. Eckert, A. Inoue, W.L. Johnson, A.R. Yavari). *Mater. Res. Soc. Symp. Proc.* **806**, 257 (2004).
77. G. Alcalá, S. Mato, S. Deledda, M. Knieps, U. Hangen, J. Eckert, A. Gebert, L. Schultz, "Nano-Mechanical Study of Mechanically Alloyed Zr-Cu-Al-Ni Glass Composite Containing Second-Phase ZrC Particles", in: *"Amorphous and Nanocrystalline Metals"*, (Hrsg. R. Busch, T.C. Hufnagel, J. Eckert, A. Inoue, W.L. Johnson, A.R. Yavari). *Mater. Res. Soc. Symp. Proc.* **806**, 343 (2004).
78. M. Stoica, N. Radtke, J. Eckert, S. Roth, G. Alcalá, A. Gebert, L. Schultz, W.H. Wang, Y.H. Zhao, "Mechanical Bahavior of Bulk Glassy $Fe_{65.5}Cr_4Mo_4Ga_4P_{12}C_5B_{5.5}$", in: *"Amorphous and Nanocrystalline Metals"*, (Hrsg. R. Busch, T.C. Hufnagel, J. Eckert, A. Inoue, W.L. Johnson, A.R. Yavari). *Mater. Res. Soc. Symp. Proc.* **806**, 349 (2004).
79. T.G. Woodcock, S. Mato, G. Alcalá, G. He, Y.M. Wang, E. Ma, Q.L. Dai, M.L. Sui, W. Löser, J. Eckert, L. Schultz, "Microstructure of Ti-Based, Dendrite/Nanostructured-Matrix Composites", in: *"Amorphous and Nanocrystalline Metals"*, (Hrsg. R. Busch, T.C. Hufnagel, J. Eckert, A. Inoue, W.L. Johnson, A.R. Yavari). *Mater. Res. Soc. Symp. Proc.* **806**, 355 (2004).
80. A. Gebert, U. Kamachi Mudali, J. Eckert, L. Schultz, "Electrochemical Reactivity of Zirconium-Based Bulk Metallic Glasses", in: *"Amorphous and Nanocrystalline Metals"*, (Hrsg. R. Busch, T.C. Hufnagel, J. Eckert, A. Inoue, W.L. Johnson, A.R. Yavari). *Mater. Res. Soc. Symp. Proc.* **806**, 369 (2004).
81. N. Mattern, U. Kühn, J. Sakowski, J. Neuefeind, J. Eckert, "Structure of $Zr_{52}Ti_5Cu_{18}Ni_{15}Al_{10}$ Bulk Metallic Glass at Elevated Temperatures", in: *"European Powder Diffraction EPDIC 8"*, (Hrsg. Y. Andersson, E.J. Mittemeijer, U. Welzel). *Mater. Sci. Forum* **443-444**, 227 (2004).
82. R. Sato Turtelli, R. Grössinger, C. Bormio-Nunes, J. Eckert, "Temperature Dependence of the Magnetostriction in Bulk Glass $Nd_{60}Fe_{20}Co_{10}Al_{10}$ Hard Magnet", in: *Proc. XVIII Int. Workshop on High-Performance Magnets and Their Applications, Annecy, Frankreich, 29.08.-02.09.2004* (Hrsg. N.M. Dempsey, P. de Rango), 2004, S. 514 ff.
83. J. Degmová, S. Roth, J. Eckert, H. Grahl, L. Schultz, "Magnetic Properties of Bulk Amorphous FeAlGaPCBSi Samples Pepared by Ball-Milling and Subsequent Hot Pressing", in: *Proc. 16th Soft Magnetic Materials Conference (SMM 16), Düsseldorf, 09.-12.09.2003*, (Hrsg. D. Raabe). *Verlag Stahleisen, Düsseldorf,* 2004, S. 269 ff.
84. J. Bednarčik, S. Roth, J. Degmová, P. Kollár, J. Eckert, "Hot Pressed Co-Based Soft Magnetic Bulk Materials", in: *Proc. 16th Soft Magnetic Materials Conference (SMM 16), Düsseldorf, 09.-12.09.2003*, (Hrsg. D. Raabe). *Verlag Stahleisen, Düsseldorf, 2004,* S. 537 ff.
85. U. Gaitzsch, M. Stoica, A. Gebert, S. Roth, J. Eckert, L. Schultz, "Electrochemical Behavior and Magnetic Properties of the Bulk Amorphous $Fe_{65.5}Cr_4Mo_4Ga_4P_{12}C_5B_{5.5}$ Alloy", in: *Proc. 16th Soft Magnetic Materials Conference (SMM 16), Düsseldorf, 09.-12.09.2003*, (Hrsg. D. Raabe). *Verlag Stahleisen, Düsseldorf,* 2004, S. 579 ff.
86. H. Grahl, S. Roth, R. Schäfer, J. Eckert, L. Schultz, "Magnetic Properties and Domain Patterns of Bulk Amorphous FeAlGaPCBSi Rods Pepared by Centrifugal Casting", in: *Proc. 16th Soft Magnetic Materials Conference (SMM 16), Düsseldorf, 09.-12.09.2003*, (Hrsg. D. Raabe). *Verlag Stahleisen, Düsseldorf* 2004, S. 597 ff.
87. M. Stoica, S. Roth, J. Eckert, L. Schultz, "Magnetic Properties of Bulk Amorphous Fe-Cr-Mo-Ga-P-C-B Alloys Obtained by Different Techniques", in: *Proc. 16th Soft Magnetic Materials Conference (SMM 16), Düsseldorf, 09.-12.09.2003*, (Hrsg. D. Raabe). *Verlag Stahleisen, Düsseldorf,* 2004, S. 681 ff.
88. M. Heilmaier, U. Grundmann, H. Saage, J. Eckert, M. Janousek, "Novel Oxide Dispersion Strengthened Alloys: Manufacturing – Microstructure – Properties", in: *Proc. 2003 Int. Conf. on Nanotechnology & PM²: Scientific Challenges and Commercial Opportunities, Boston, 2003,* (Hrsg. D. Apelian, T.N. Tiegs). *Metal Powder Industries Federation MPIF, USA, 2003*.
89. S. Roth, G. Saage, J. Eckert, L. Schultz, "Magnetic Crystalline Transition Metal Ribbons Prepared by Melt Spinning and Reactive Annealing", in: *"Properties and Applications of Nanocrystalline Alloys Prepared from Amorphous Precursors"*, *Proc. NATO Adv. Res. Workshop on Properties*

and Applications of Nanocrystalline Alloys Prepared from Amorphous Precursors, Budmerice, Slovakei, 09.-15.06.2003 (Hrsg. B. Idzikowski, P. Švec, M. Miglierini). *Kluwer Academic Publ. Dordrecht,* 2005, S. 199 ff.

90. N. Mitrovič, S. Roth, S. Djukič, J. Eckert, "Magnetic Softening of Metallic Glasses by Current Annealing Technique", in: *"Properties and Applications of Nanocrystalline Alloys Prepared from Amorphous Precursors"*, *Proc. NATO Adv. Res. Workshop on Properties and Applications of Nanocrystalline Alloys Prepared from Amorphous Precursors, Budmerice, Slovakei, 09.-15.06.2003* (Hrsg. B. Idzikowski, P. Švec, M. Miglierini). *Kluwer Academic Publ. Dordrecht,* 2005, S. 331 ff.
91. J. Eckert, J. Das, G. He, T.G. Woodcock, W. Löser, A. Gebert, "Synthesis and Properties of Bulk Nanostructure/Dendrite Ti-Base Composites", in: *Proc. 13th Int. Symp. on Processing and Fabrication of Advanced Materials PFAM-XIII, Vol. 1, Singapore, Dezember 2004,* (Hrsg. M. Gupta, C.Y.H. Lim, T.S. Srivatsan, R.A. Varin). *Stallion Press Pte. Ltd., Singapore,* 2005, S. 40 ff.
92. A. Handstein, O. Perner, W. Häßler, C. Fischer, G. Fuchs, O. Gutfleisch, K. Nenkov, C. Rodig, J. Eckert, B. Holzapfel, K.-H. Müller, L. Schultz, "High Critical Currents in Nanostructured MgB_2 Hot-Pressed Pellets and Iron-Sheathed Tapes", in: *Proc. 13th Int. Symp. on Processing and Fabrication of Advanced Materials PFAM-XIII, Vol. 1, Singapore, Dezember 2004,* (Hrsg. M. Gupta, C.Y.H. Lim, T.S. Srivatsan, R.A. Varin). *Stallion Press Pte. Ltd., Singapore,* 2005, S. 431 ff.
93. N. Mitrovič, S. Roth, J. Degmová, M. Stoica, J. Eckert, "Synthesis, Structure and Properties of Iron-based Bulk Glass-Forming Metallic Alloys Prepared by Different Processing", in: *"Current Research in Advanced Materials and Processes"*, (Hrsg. D.P. Uskovič, S.K. Miljonič, D.I. Rakovič). *Mater. Sci. Forum* **494**, 321 (2005).
94. M. Miller, S. Venkataraman, J. Eckert, L. Schultz, D.J. Sordelet, "Atom Probe Tomography Characterization of a Gas Atomized Bulk Metallic Glass", in: *Proc. TMS 2006 Annual Meeting, Symp. on Bulk Metallic Glasses, San Antonio, USA, 12.-16. März 2006.* in: *"*Bulk Metallic Glasses*"*. (Hrsg. P.K. Liaw, R. Buchanan). *TMS Publ., Warrendale, USA*; CD-ROM "Emerging Materials".
95. J. Eckert, S. Scudino, P. Yu, C. Duhamel, "Powder Metallurgy of Nanostructured High Strength Materials", in: *"Progress in Powder Metallurgy",* (Hrsg. D.Y Yoon, S.-J.L. Kang, K.Y. Eun, Y.-S. Kim). *Mater. Sci. Forum* **534-536**, 1405 (2006).
96. C. Duhamel, K.B. Kim, J. Das, W. Xu, M. Calin, G. He, J. Eckert, "High-Strength Nanostructured Titanium Alloys with Improved Deformation Behavior", in: *"Proc. NANOMEC-06 Materials Science and Materials Mechanics at the Nanoscale: Modeling, Experimental Mechanics & Applications", Bari, Italien, 19.-23. November 2006.* (Hrsg. C. Pappalettere, C.A. Sciammarella, S. Yoshida). CD-ROM "NANOMEC-06".
97. K.S. Lee, H.-J. Jun, C.P. Kim, J. Eckert, Y.W. Chang, "Formability Evolution of Both Monolitic and Multiphase Zr-Based Bulk Metallic Glasses", in: *"The Mechanical Behavior of Materials X"*, (Hrsg. S.W. Nam, Y.W. Chang, S.B. Lee, N.J. Kim). *Key Eng. Mater.* **345-346**, 105 (2007).
98. P. Matteis, P. Russo Spena, C. Pozzi, D. Firrao, T.A. Baser, M. Baricco, J. Eckert, L. Battezzati, "Fracture of $Cu_{46.5}Zr_{46.5}Al_7$ and $Cu_{46.5}Zr_{41.5}Al_7Y_5$ Bulk Metallic Glasss", in: *"Proc. 17th Europ. Conf. on Fracture (ECF 17). Multilevel Approach to Fracture of Materials, Components and Structures", Brno, Tschechische Republik, 02.-05.09.2008,* (Hrsg. J. Pokluda, P. Lukáš, P. Šandera, I. Dlouhy). *VUTIUM Brno, Czech Republic*; CD-ROM, S. 1717 ff.
99. K.S. Lee, H.-J. Jun, Y.W. Chang, J. Eckert, J.H. Lee, "High Temperature Deformation and Formability of $Cu_{47.5}Zr_{47.5}Al_5$ Bulk Metallic Glass", in: *"Proc. Int. Conf. on Technology of Plasticity", Gyeongju, Korea, 07.-11.09.2008. The Korean Society for Technology of Plasticity, Seoul, Korea*; CD-ROM, S. 570 ff.
100. V. Hoffmann, V.V. Efimova, M.V. Voronov, P. Šmid, E.B.M. Steers, J. Eckert, "Measurement of Voltage and Current in Continuous and Pulsed RF and DC Glow Discharges", in: *"Proc. 24th Summer School and Int. Symp. on the Physics of Ionized Gases (SPIG2008)", Novi Sad, Serbien, 25.-29.08.2008. IOP Publ. Ltd., London. J. Phys.: Conf. Series* **133**, 012017 (2008).
101. V.V. Efimova, M.V. Voronov, V. Hoffmann, J. Eckert, "Electrical Properties of Pulsed Glow Discharge: Two New Aspects", in: *"Proc. 24th Summer School and Int. Symp. on the Physics of Ionized Gases (SPIG2008)", Novi Sad, Serbien, 25.-29.08.2008,* (Hrsg. G. Malovic, L.C. Popovic,

M.S. Dimitrijevic). *Publications of the Astronomical Observatory of Belgrade, Yugoslavia -- Series* **84**, 369 (2008).

102. S. Scudino, M. Sakaliyska, K.B. Surreddi, J. Eckert, "Solid-State Processing of Al-Mg Alloys", in: *"Proc. 13th Int. Conf. on Rapidly Quenched & Metastable Materials (RQ 13)", Dresden, 24.-29.08.2008,* (Hrsg. L. Schultz, J. Eckert, L. Battezzati, M. Stoica). *IOP Publ. Ltd., London. J. Phys.: Conf. Series* **144**, 012019 (2009).
103. R. Li, M. Stoica, J. Eckert, "Effect of Minor Cu Addition on Phase Evolution and Magnetic Properties of $\{[(Fe_{0.5}Co_{0.5})_{0.75}Si_{0.05}B_{0.20}]_{0.96}Nb_{0.04}\}_{100-x}Cu_x$ Alloys", in: *"Proc. 13th Int. Conf. on Rapidly Quenched & Metastable Materials (RQ 13)", Dresden, 24.-29.08.2008,* (Hrsg. L. Schultz, J. Eckert, L. Battezzati, M. Stoica). *IOP Publ. Ltd., London. J. Phys.: Conf. Series* **144**, 012042 (2009).
104. K.B. Surreddi, S. Scudino, H.V. Nguyen, K. Nikolowski, M. Stoica, M. Sakaliyska, J.S. Kim, T. Gemming, J. Vierke, M. Wollgarten, J. Eckert, "Spark Plasma Sintering of Gas Atomized $Al_{87}Ni_8La_5$ Amorphous Powder", in: *"Proc. 13th Int. Conf. on Rapidly Quenched & Metastable Materials (RQ 13)", Dresden, 24.-29.08.2008,* (Hrsg. L. Schultz, J. Eckert, L. Battezzati, M. Stoica). *IOP Publ. Ltd., London. J. Phys.: Conf. Series* **144**, 012079 (2009).
105. K. Nikolowski, S. Scudino, M. Stoica, K.B. Surreddi, J. Das, J. Eckert, "Stress-Induced Martensitic Transformation in a $Ti_{45}Zr_{38}Al_{17}$ Cast Rod", in: *"Proc. 13th Int. Conf. on Rapidly Quenched & Metastable Materials (RQ 13)", Dresden, 24.-29.08.2008,* (Hrsg. L. Schultz, J. Eckert, L. Battezzati, M. Stoica). *IOP Publ. Ltd., London. J. Phys.: Conf. Series* **144**, 012090 (2009).
106. S. Scudino, B. Bartusch, J. Eckert, "Viscosity of the Supercooled Liquid in Multi-Component Zr-Based Metallic Glasses", in: *"Proc. 13th Int. Conf. on Rapidly Quenched & Metastable Materials (RQ 13)", Dresden, 24.-29.08.2008,* (Hrsg. L. Schultz, J. Eckert, L. Battezzati, M. Stoica). *IOP Publ. Ltd., London. J. Phys.: Conf. Series* **144**, 012097 (2009).
107. M. Stoica, M. Emmi, S. Ram, A. Wiedenmann, O. Perroud, J. Eckert, "Microstructure and Properties of Binary $Nd_{80}Fe_{20}$ with Ga Additions", in: *"Proc. 13th Int. Conf. on Rapidly Quenched & Metastable Materials (RQ 13)", Dresden, 24.-29.08.2008,* (Hrsg. L. Schultz, J. Eckert, L. Battezzati, M. Stoica). *IOP Publ. Ltd., London. J. Phys.: Conf. Series* **144**, 012103 (2009).
108. G.P. Singh, S. Ram, J. Eckert, H.-J. Fecht, "Synthesis and Morphological Stability in CrO_2 Single Crystals of a Half-Metallic Ferromagnetic Compound", in: *"Proc. 13th Int. Conf. on Rapidly Quenched & Metastable Materials (RQ 13)", Dresden, 24.-29.08.2008,* (Hrsg. L. Schultz, J. Eckert, L. Battezzati, M. Stoica). *IOP Publ. Ltd., London. J. Phys.: Conf. Series* **144**, 012110 (2009).
109. M. Sakaliyska, S. Scudino, H.V. Nguyen, K.B. Surreddi, B. Bartusch, F. Ali, J.S. Kim, J. Eckert, "Consolidation and Mechanical Properties of Mechanically Alloyed Al-Mg Powders", in: *"Advanced Intermetallic-Based Alloys for Extreme Environment and Energy Applications",* (Hrsg. M. Palm, B.P. Bewlay, Y.H. He, M. Takeyama, J.M.K. Wiezorek,). *Mater. Res. Soc. Symp. Proc. Proc.* **1128**, 299 (2009).
110. M. Stoica, S. Roth, J. Eckert, G. Vaughan, "Glass-Forming Fe-Based Alloys Purified by Fluxing Techniques", in: *"Proc. Int. Conf. on Advanced Processing for Novel Functional Materials – APNFM 2008", Dresden, 23.-25.01.2008.* (Hrsg. Y. Grin, B. Kieback, J. Schmidt). Max-Planck-Institut für Chemische Physik fester Stoffe, Dresden und Fraunhofer Institut für Fertigungstechnik und Angewandte Materialforschung Dresden, Dresden, 2009, S. 471 ff.
111. S. Gorantla, F. Börnert, A. Bachmatiuk, R. Schönfelder, M.H. Rümmeli, B. Büchner, T. Gemming, J. Eckert, "HRTEM Imaging of Electron Beam Irradiation Defect Dynamics in SWCNTs at 80 kV", in: *"Proc. Microscopy Conf. 2009 (MC2009), Vol. 3, Materials Science", Graz, Österreich, 30.08.-04.09.2009.* (Hrsg. W. Grogger, F. Hofer, P. Pölt). Verlag der Technischen Universität Graz, Graz, Österreich, 2009, S. 141 ff.
112. J. Thomas, J. Schumann, T. Gemming, J. Eckert, "TEM Investigation of Electron Beam Evaporated Epitaxial Fe_3Si Films on GaAs (100) Substrates", in: *"Proc. Microscopy Conf. 2009 (MC2009), Vol. 3, Materials Science", Graz, Österreich, 30.08.-04.09.2009.* (Hrsg. W. Grogger, F. Hofer, P. Pölt). Verlag der Technischen Universität Graz, Graz, Österreich, 2009, S. 455 ff.
113. V.C. Srivastava, K.B. Surreddi, S. Scudino, M. Schowalter, V. Uhlenwinkel, A. Schulz, J. Eckert, A. Rosenauer, H.-W. Zoch, "Novel Microstructural Characteristics of Spray Formed Al-RE-TM Based Glasses Forming Alloys", in: *"Proc. 4th Int. Conf. on Spray Deposition and Melt*

Atomization (SDMA 2009) and 7th Int. Conf. on Spray Forming (ICSF-VII)", Bremen, 07.-09.09.2009. CD-ROM.

114. M. Spindler, S.B. Menzel, J. Eckert, C. Eggs, "Influence of Al on Resistance and Power Durability of Cu-Based SAW Metallizations", in: *"Fundamentals and Technology of Multifunctional Oxide Thin Films"; Proc. E-MRS Spring Meeting, Symposium G, Strasbourg, Frankreich, 08.-12.06.2009,* (Hrsg. P. Muralt, M. Kosec, V. Raineri, S. Ravesi). *IOP Publ. Ltd., London. IOP Conf. Series. Materials Science and Engineering* **8**, 012013 (2010).
115. M.H. Lee, J.H. Jun, J. Eckert, "Effect of Residual Stress on Mechanical Property of Monolithic Bulk Metallic Glasses", in: *"Proc. 7th Pacific Rim Int. Conf. on Advanced Materials and Processing (PRICM 7)", Cairns, Australien, 01.-05.08.2010"*, (Hrsg. J.-F. Nie, A. Morton). *Mater. Sci. Forum* **654-656**, 1050 (2010).
116. L.-C. Zhang, H.B. Lu, M. Calin, E.V. Pereloma, J. Eckert, "High-Strength Ultrafine-Grained Ti-Fe-Sn Alloys with a Bimodal Structure", in: *"Proc. 15th Int. Conf. on the Strength of Materials (ICSMA 15)", Dresden, 16.-21.08. 2009,* (Hrsg. W. Skrotzki, C.-G. Oertel, H. Biermann, M. Heilmaier). *IOP Publ. Ltd., London. J. Phys.: Conf. Series* **240**, 012103 (2010).
117. S. Scudino, F. Ali, K.B. Surreddi, K.G. Prashanth, M. Sakaliyska, J. Eckert, "Al-Based Metal Matrix Composites Reinforced with Nanocrystalline Al-Ti-Ni Particles", in: *"Proc. 15th Int. Conf. on the Strength of Materials (ICSMA 15)", Dresden, 16.-21.08. 2009,* (Hrsg. W. Skrotzki, C.-G. Oertel, H. Biermann, M. Heilmaier). *IOP Publ. Ltd., London. J. Phys.: Conf. Series* **240**, 012154 (2010).
118. K.B. Surreddi, V.C. Srivastava, S. Scudino, M. Sakaliyska, V. Uhlenwinkel, J.S. Kim, J. Eckert, "Production of High-Strength $Al_{85}Y_8Ni_5Co_2$ Bulk Alloy by Spark Plasma Sintering", in: *"Proc. 15th Int. Conf. on the Strength of Materials (ICSMA 15)", Dresden, 16.-21.08.2009,* (Hrsg. W. Skrotzki, C.-G. Oertel, H. Biermann, M. Heilmaier). *IOP Publ. Ltd., London. J. Phys.: Conf. Series* **240**, 012155 (2010).
119. N. Mattern, J. Eckert, "Short-Range Order of Cu-Zr Metallic Glasses", in: *"Proc. 2009 WPI-AIMR Annual Workshop", Miyagi-Zao, Japan, 01.-06.03.2009, WPI-AIMR News* **10**, 104 (2010).
120. W. Xu, M. Calin, K.B. Kim, J. Das, K. Xia, J. Eckert, "Microscopic Deformation Behavior and Microstructural Evolution in Ti-Nb-Ta-M (M = In, Ag, or Cr) β Alloys", in: *"Proc. 2009 WPI-AIMR Annual Workshop", Miyagi-Zao, Japan, 01.-06.03.2009, WPI-AIMR News* **10**, 111 (2010).
121. T. Marr, J. Freudenberger, A. Kauffmann, J. Scharnweber, C.-G. Oertel, W. Skrotzki, U. Siegel, U. Kühn, J. Eckert, L. Schultz, "Damaszenleichtmetalle", in: *"ECEMP-European Centre for Emerging Materials and Processes Dresden – Proc. Int. ECEMP Colloquium 2010, Dresden, 02.-03.12.2010,* (Hrsg. W. Hufenbach). GWT-TUD GmbH, Verlag Wissenschaftliche Skripten, Dresden, 2010, S. 101 ff.
122. I. Kaban, P. Jóvári, T. Petkova, P. Petkov, A. Stoilova, B. Beuneu, W. Hoyer, N. Mattern, J. Eckert, "Atomic Structure of $(Ge_{0.2}Se_{0.8})_{85}B_{15}$ and $(Ge_{0.2}Se_{0.8})_{85}In_{15}$ Glasses", in: *"Nanotechnological Basis for Advanced Sensors", Proc. NATO Summer School on Nanotechnological Basis for Advanced Sensors, Sozopol, Bulgarien, 30.5.-11.06.2010,* (Hrsg. J.P. Reithmaier, P. Paunovic, W. Kulisch, C. Popov, P. Petkov). *NATO Science for Peace and Security Series B: Physics and Biophysics, Springer Science + Business Media B.V., Dordrecht, Niederlande, 2011,* S. 195 ff.
123. A.P. Shpak, A.G. Il'inskii, A.V. Marunyak, O.I. Slukhovskyy, Yu.V. Lepeeva, A. Dekhtyar, I. Kaban, N. Mattern, J. Eckert, "Crystallization of $Fe_{82}Si_2B_{16}$ and $Fe_{82}Si_4B_{14}$ Metallic Glasses upon Isothermal and Non-Isothermal Annealing", in: *"Proc. 14th Int. Conf. on Liquid and Amorphous Metals (LAM-14), Rom, Italien, 11.-16.07.2010. EPJ Web of Conferences, EDP Sciences* **15**, 01008 (2011).
124. L. Löber, D. Klemm, U. Kühn, J. Eckert, "Rapid Manufacturing of Cellular Structures of Steel or Titaniumaluminide", in: *"Light Metals Technology V",* (Hrsg. H. Dieringa, N. Hort, K.U. Kainer). *Mater. Sci. Forum* **690**, 103 (2011).
125. F. Thoss, L. Giebeler, S. Oswald, H. Ehrenberg, J. Eckert, "Amorphe Al-basierte Anodenmaterialien für Li-Ionen-Batterien", in: *"ECEMP-European Centre for Emerging Materials and Processes Dresden – Spitzentechnologie als Wegbereiter für Energietechnik, Umwelttechnik und Leichtbau"; Proc. Int. ECEMP Colloquium 2011", Dresden, 27.-28.10.2011,* (Hrsg. W. Hufenbach, M. Gude). Verlag Wissenschaftliche Skripten, Dresden, 2011, S. 115 ff.
126. J. Scharnweber, J. Romberg, P. Chekhonin, A. Eschke, C.-G. Oertel, W. Skrotzki, T. Marr,

J. Freudenberger, L. Schultz, U. Siegel, U. Kühn, J. Eckert, "Leichtmetall-Kompositbleche", in: *"ECEMP-European Centre for Emerging Materials and Processes Dresden – Spitzentechnologie als Wegbereiter für Energietechnik, Umwelttechnik und Leichtbau"; Proc. Int. ECEMP Colloquium 2011", Dresden, 27.-28.10.2011,* (Hrsg. W. Hufenbach, M. Gude). Verlag Wissenschaftliche Skripten, Dresden, 2011, S. 273 ff.

127. J.S. Kim, M.H. Lee, D.H. Kim, U. Kühn, J. Eckert, "Synthesis of Functional Porous Metallic Material from Metallic Glass Composites Precursor by Powder Metallurgy Route", in: *"Proc. Europ. Congress on Advanced Materials and Processes (EUROMAT 2011), Symp. C13 – Metallic Glasses and Related Composites: New Routes for Functional and Strong Materials", Montpellier, Frankreich, 12.-15.09.2011,* (Hrsg. M. Stoica, K. Georgarakis). *Revue de Métallurgie* **109**, 11 (2012).
128. A. Seifoddini, M. Nili-Ahmadabadi, S. Heshmati-Manesh, M. Stoica, U. Kühn, J. Eckert, "The Effect of Microstructural Changes Induced by Annealing on Mechanical Properties of FeCoCrMoCBY Bulk Glassy Alloy", in: *"Proc. 2012 2nd Int. Conf. on Key Engineering Materials (ICKEM 2012)", Singapore, Singapore, 26.-28.02.2012*. *Adv. Mater. Res.* **488-489**, 861 (2012).
129. M. Calin, M. Stoica, N. Zheng, X.R. Wang, S. Scudino, A. Gebert, J. Eckert, "Thermal Stability and Crystallization Kinetics of $Ti_{40}Zr_{10}Cu_{34}Pd_{14}Sn_2$ Bulk Metallic Glass", in: *"Advanced Materials and Structures IV"; Proc. 4th Int. Conf. on Advanced Materials and Structures (AMS 2011), Timişoara, Rumänien, 27.-28.10.2011,* (Hrsg. M. Nicoară, A. Răduţă, C. Opriş). *Solid State Phenom.* **188**, 3 (2012).
130. K.G. Prashanth, K.B. Surreddi, S. Scudino, M. Samadi Khoshkhoo, Z. Wang, D.J. Sordelet, J. Eckert, "Powder Metallurgy of High Strength $Al_{90.4}Y_{4.4}Ni_{4.3}Co_{0.9}$ Gas-Atomized Powder", in: *"Proc. 13th Int. Conf. on Aluminum Alloys (ICAA-13)", Pittsburgh, USA*, *03.-07.06.2012,* (Hrsg. H. Weiland, A.D. Rollett, W.A. Cassada). John Wiley & Sons, Inc., Hoboken, NJ, USA, 2012, S. 1017 ff.
131. J. Tan, F.S. Pan, C.J. Li, J.F. Wang, J. Eckert, "Effect of Fe on Crystallization Process of Zr-Co-Al-(Fe) Bulk Metallic Glasses", in: *"Advances in Functional and Electronic Materials",* (Hrsg. Lianjun Wang, Xiumei Wang, Guo Yan, Kefu Yao). *Mater. Sci. Forum* **745-746**, 734 (2013).
132. X.R. Wang, S. Scudino, J. Eckert, "Production and Characterization of Al 2024 Matrix Composites Reinforced with β-Al_3Mg_2 Complex Metallic Alloy Particles", in: *"Complex Metallic Alloys"*, (Hrsg. M. Feuerbacher, V. Fournee, Y Ishii, C. Jenks). *Mater. Res. Soc. Symp. Proc.* **1517**. Cambridge Univerity Press, Cambridge, 2013. ISSN: 1946-4274, DOI: 10.1557/opl.2012.1755, mrsf12-1517-kk02-05, S. 1-11.
133. I. Okulov, U. Kühn, J. Eckert, T. Marr, J. Freudenberger, L. Schultz, J. Scharnweber, C.-G. Oertel, W. Skrotzki, "Duktile multikomponentige Titanlegierungen", in: *"ECEMP-European Centre for Emerging Materials and Processes Dresden – Neue Werkstoffe und Technologien für nachhaltige Produkte und Prozesse"; Proc. Int. ECEMP Colloquium 2012", Dresden, 25.-26.10.2012,* (Hrsg. W. Hufenbach, M. Gude). Verlag Wissenschaftliche Skripten, Dresden, 2012, S. 96 ff.
134. B. Böhme, Y. Liang, F. Thoss, L. Giebeler, H. Ehrenberg, M. Baitinger, J. Eckert, Y. Grin, "Lithium in Clathrates", in: *"ECEMP-European Centre for Emerging Materials and Processes Dresden – Neue Werkstoffe und Technologien für nachhaltige Produkte und Prozesse"; Proc. Int. ECEMP Colloquium 2012", Dresden, 25.-26.10.2012,* (Hrsg. W. Hufenbach, M. Gude). Verlag Wissenschaftliche Skripten, Dresden, 2012, S. 228 ff.
135. J. Tan, C.J. Li, Y.H. Jiang, R. Zhou, J. Eckert, "Correlation between Internal States and Strength in Bulk Metallic Glasses", in: *"PRICM: 8 Pacific Rim Int. Congress on Advanced Materials and Processing (PRICM-8)", Waikaloa, Hawaii, USA, 04.-09.08.2013,* (Hrsg. F. Marquis). John Wiley & Sons, New York, 2013, S. 3199 ff.
136. U. Kühn, S. Pauly, M. Franke, L. Löber, R. Petters, J. Eckert, "Metallische Gläser: Herausforderungen und Chancen", in: *"ECEMP-European Centre for Emerging Materials and Processes Dresden – Ressourcenschonende Werkstoffe – Technologien – Prozesse"; Proc. Int. ECEMP Colloquium 2013", Dresden, 25.-26.10.2013,* (Hrsg. W. Hufenbach, M. Gude). Verlag Wissenschaftliche Skripten, Dresden, 2013, S. 159 ff.
137. T. Marr, J. Romberg, J. Freudenberger, J. Scharnweber, A. Eschke, C.-G. Oertel, I. Okulov, R. Petters, U. Kühn, J. Eckert, L. Schultz, W. Skrotzki, "Feines Gefüge, fester Werkstoff", in: *"ECEMP-European Centre for Emerging Materials and Processes Dresden – Ressourcenschonende Werkstoffe – Technologien – Prozesse"; Proc. Int. ECEMP Colloquium*

2013", Dresden, 25.-26.10.2013, (Hrsg. W. Hufenbach, M. Gude). Verlag Wissenschaftliche Skripten, Dresden, 2013, S. 375 ff.

138. L. Giebeler, F. Thoss, I. Lindemann, C. Bonatto Minella, B. Böhme, S. Peters, M. Baitinger, J. Grin, J. Eckert, L. Schultz, "Solid State Hydrogen Storage Materials and Metallic Anodes for Mobile and Stationary Applications", in: *"ECEMP-European Centre for Emerging Materials and Processes Dresden – Ressourcenschonende Werkstoffe – Technologien – Prozesse"; Proc. Int. ECEMP Colloquium 2013", Dresden, 25.-26.10.2013,* (Hrsg. W. Hufenbach, M. Gude). Verlag Wissenschaftliche Skripten, Dresden, 2013, S. 385 ff.
139. S. Dörfler, K. Pinkert, A. Meyer, M. Weiser, H. Althues, L. Giebeler, M. Schneider, J. Eckert, A. Michaelis, E. Beyer, S. Kaskel, "Highly Porous Carbon Electrodes for Energy Storage and Conversion Application", in: *"ECEMP-European Centre for Emerging Materials and Processes Dresden – Ressourcenschonende Werkstoffe – Technologien – Prozesse"; Proc. Int. ECEMP Colloquium 2013", Dresden, 25.-26.10.2013,* (Hrsg. W. Hufenbach, M. Gude). Verlag Wissenschaftliche Skripten, Dresden, 2013, S. 427 ff.
140. M. Krautz, J. Hosko, K. Skokov, P. Svec, M. Stoica, L. Schultz, J. Eckert, O. Gutfleisch, A. Waske, "Pathways for Novel Magnetocaloric Materials: A Processing Prospect", in: *Proc. Donostia Int. Conf. on Nanoscaled Magnetism and Applications (DICNMA 2013), San Sebastian, Spanien, 09.-13.09.2013*. *Phys. Stat. Sol. (c)* **11**, 1039 (2014).
141. N.K. Mukhopadhyay, F. Ali, S. Scudino, M. Samadi Khoshkhoo, M. Stoica, V.C. Srivastava, V. Uhlenwinkel, G. Vaughan, C. Suryanarayana, J. Eckert, "Inverse Hall-Petch Like Mechanical Behaviour in Nanophase Al-Cu-Fe Quasicrystals: A New Phenomenon", in: *Proc. 12th Int. Conf. on Quasicrystals (ICQ 12), Crakow, Polen, 01.-06.09.2013*. *Acta Phys. Pol. A* **126**, 543 (2014).
142. A.H. Taghvaei, M. Stoica, K. Janghorban, J. Eckert, "Ball Milling-Induced Nanocrystallization of $Co_{40}Fe_{22}Ta_8B_{30}$ Metallic Glass with High Thermal Stability and Good Soft Magnetic Properties", in: "*Proc. 5th Int. Conf. on Nanostructures (ICNS5) - Vol. 2*", *Kish Island, Iran, 06.-09.03.2014*, (Hrsg. M. Reza Ejtehadi). Institute for Nanoscience and Nanotechnology (INST), Sharif University of Technology, Tehran, Islamic Republic of Iran, 2014, S. 974 ff.
143. A. Raduta, M. Nicoara, C. Locovei, M. Stoica, J. Eckert, "About Replacement of Nickel as Amorphization Element for Fabrication of Ultra-Rapidly Solidified Ti-Zr Alloys", in: "*Advanced Materials and Structures V*"*; Proc. 5th Int. Conf. on Advanced Materials and Structures (AMS'13), Timişoara, Rumänien, 24.-25.10.2013,* (Hrsg. M. Nicoară, C. Opriş). *Solid State Phenom.* **216**, 3 (2014).
144. E.M. Mazzer, C.S. Kiminami, P. Gargarella, R.D. Cava, L.A. Basilio, C. Bolfarini, W.J. Botta, J. Eckert, T. Gustmann, S. Pauly, "Atomization and Selective Laser Melting of a Cu-Al-Ni-Mn Shape Memory Alloy", ", in: "*Advanced Powder Technology IX*"*; Proc. 9th Int. Latin American Conf. on Powder Technology (PTECH 2013), Campos de Jordão, São Paulo, Brasilien, 27.-30.10.2013,* (Hrsg. F. Ambrosio Filho, A. Nelmo Klein). *Mater. Sci. Forum* **802**, 343 (2014). ISSN: 1662-9752.
145. S. Horn, A. Freidank, M. Uhlemann, M. Stoica, J. Eckert, A. Gebert, "Electrochemical Micromachining of Passive Fe-Based Bulk Metallic Glasses in Aqueous Solutions", in: "*Proc. 10th Int. Symp. on Electrochemical Machining Technology (INSECT 2014)*", *Saarbrücken, 13.-14.11.2014.* (Hrsg. D. Bähre, A. Rebschläger). Verlag Wiss. Skripten, 2014.
146. S. Rozenberg, J. Lang, F. Saporiti, F. Audebert, M. Stoica, J. Eckert, J. Huot, "Aleaciones Base Mg Obtenidas por Solidificación Rápida para Almacenamiento de Hidrógeno"*,* in: "*Proc. Congreso Internacional de Metallurgia Materiales SAM - CONAMET /IBEROMAT Material 2014*"*, Santa Fe, Argentinien, 21.-24.10.2014.*
147. A. Panigrahi, M. Bönisch, T. Waitz, M. Calin, W. Skrotzki, J. Eckert, M. Zehetbauer, "Thermal Stability of HPT-Induced Omega Phase in Biocompatible Ti-16.1Nb Alloys", in: "*Proc. Int. Conf. on Solid-Solid Phase Transformations in Inorganic Materials (PTM 2015)", Whistler, Canada, 28.06.-03.07.2015,* (Hrsg. M. Militzer, G. Botton, L.-Q. Chen, J. Howe, C. Sinclair, H. Zurob). The Minerals, Metals & Materials Society, USA, 2015, S. 263 ff. ISBN 978-0-692-43736-0.
148. J.Zeisig, H. Wendrock, J. Hufenbach, T. Gemming, U. Kühn, J. Eckert, "Characterization of Martensitic Transformation of a Newly Developed FeCrMoVC Cast Alloy using Micro- and Nanoindentation Experiments", in: "*Proc. Asia Steel Int. Conf. 2015 (Asia Steel 2015)", Yokohama, Japan, 05.-08.10.2015*, S. 82 ff.

149. J.Zeisig, H. Wendrock, J. Hufenbach, U. Kühn, J. Eckert, "Mikrostrukturelle Charakterisierung der durch Mikro- und Nanoindentierung induzierten martensitischen Phasenumwandlung in der Fe79,4Cr13Mo5V1C1,6 Stahlgusslegierung", in: "*Fortschritte in der Metallographie – Vortragstexte der 49. Materialographie-Tagung 2015", Dresden, 16.-18.09.2015*. (Hrsg. G. Petzow). INVENTUM Verlag, Frankfurt, 2015, S. 71 ff.
150. S. Niyomsoan, P. Gargarella, N. Chomsaeng, P. Termsuksawad, U. Kühn, J. Eckert, "Phase Separation in Rapidly Solidified Ag-Rich Ag-Cu-Zr Alloys", in: "*Proc. 15th Int. Conf. on Rapidly Quenched & Metastable Materials (RQ 15)", Shanghai, PR China, 24.-28.08.2014*. *Sonderband Materials Research – Ibero-American Journal of Materials*. Mater. Res. 18 (Suppl. 1) (2015) 120. ISSN: 1516-1439.
151. P. Gargarella, C.S. Kiminami, E.M. Mazzer, R.D. Cava, L.A. Basilio, C. Bolfarini, W.J. Botta, J. Eckert, T. Gustmann, S. Pauly, "Phase Formation, Thermal Stability and Mechanical Properties of a Cu-Al-Ni-Mn Shape Memory Alloy Prepared by Selective Laser Melting", in: "*Proc. Congresso Brasileiro de Engenhari a e Ciencia dos Materials", Cuiabá, Brasilien, 09.-13.11.2014*. *Sonderband Materials Research – Ibero-American Journal of Materials*. Mater. Res. 18 (Suppl. 2) (2015) 35. ISSN: 1516-1439.
152. T. Gustmann, A. Neves, U. Kühn, P. Gargarella, C.S. Kiminami, C. Bolfarini, J. Eckert, S. Pauly, "Fabrication of Cu-Al-Ni-Mn Shape-Memory Parts by Selective Laser Melting", in: "*Proc. Fraunhofer Direct Digital Manufacturing Conference 2016 (DDMC 2016)", Berlin, 16.-17.03.2016*. Fraunhofer Verlag, 2016. ISBN: 978-3-8396-1001-5.
153. P. Ramasamy, M. Stoica, M. Calin, J. Eckert, "Effect of Cu and Gd on Structural and Magnetic Properties of Fe-Co-B-Si-Nb Metallic Glasses", *in: "Advanced Materials and Structures VI"; Proc. 6th Int. Conf. on Advanced Materials and Structures (AMS'15), Timişoara, Rumänien, 16.-17.10.2015,* (Hrsg. M. Nicoară, I.D. Uţu, C. Opriş). *Solid State Phenom.* **254**, 60 (2016).
154. S. Rozenberg, F. Saporiti, J. Lang, F. Audebert, P. Botta, M. Stoica, J. Huot, J. Eckert, "Effect of Alloying Elements in Melt-Spun Mg-Alloys for Hydrogen Storage", in: "*Proc. Int. Workshop on Metastable and Nanostructured Materials (NANOMAT 2015)", Cancún, México, 16.-20.08.2015*. *Sonderband Materials Research – Ibero-American Journal of Materials*. Mater. Res. 19 (Suppl. 1) (2016) 20. ISSN: 1516-1439.
155. D. Geissler, J. Grosse, S. Donath, D. Ehinger, M. Stoica, J. Eckert, U. Kühn, "Granulation of Bulk Metallic Glass Forming Alloys as a Feedstock for Thermoplastic Forming and their Compaction into Bulk Samples", in: "*Proc. 9th Int. Conf. on Processing and Manufacturing of Advanced Materials – THERMEC 2016", Graz, Österreich, 29.05.-03.06.2016,* (Hrsg. C. Sommitsch, M. Ionescu, B. Mishra, E. Kozeschnik, T. Chandra). Mater. Sci. Forum **879**, 589 (2017).
156. J. Eckert, "Structure Modulation and Nanocrystallization of Metallic Glasses: How to Tune Mechanical Properties", in: "*Proc. 1st Int. Conf. on Theoretical, Applied and Experimental Mechanics (ICTAEM 2018)", Paphos, Zypern, 17.-20.06.2018*. *Reihe: Procedia Structural Integrity, Vol. 5*. (Hrsg. E.E. Gdoutos). Springer Int. Publ. AG, Berlin, 2018, S. 352 ff. ISBN: 978-3-319-91988-1.
157. C. Gammer, J. Eckert, "Nanodiffraction Strain Mapping of Metallic Glasses During In Situ Deformation", in: "*Proc. 1st Int. Conf. on Theoretical, Applied and Experimental Mechanics (ICTAEM 2018)", Paphos, Zypern, 17.-20.06.2018*. *Reihe: Procedia Structural Integrity, Vol. 5*. (Hrsg. E.E. Gdoutos). Springer Int. Publ. AG, Berlin, 2018, S. 356 ff. ISBN: 978-3-319-91988-1.
158. D. Wimler, C. Gammer, J. Eckert, F. Mendez-Martin, J. Lindemann, H. Clemens, S. Mayer, "High-Resolution Characterization of Intermetallic TiAl-Powder for Addititve Manufacturing", in: "*Proc. EURO PM 2019 Int. Powder Metallurgy Congress & Exhibition", Maastricht, The Netherlands, 13.-16.10.2019*. Europ. Powder Metallurgy Association (EMPA), Shrewsbury, UK, 2019. ISBN: 978-1-899072-51-4.

Video Proceedings

1. J. Eckert, "Design and Processing of Biocompatible Ti Alloys for Bone Implant Applications", *Vid. Proc. Adv. Mater.* **2**, 2021108220 (2021). DOI: 10.5185/vpoam.2021.08220.

2. J. Eckert, "Designing Chemically Complex Alloys and Composites for Engineering Applications", *Vid. Proc. Adv. Mater.* **2**, 202111248 (2021). DOI: 10.5185/vpoam.2021.11248.

Patente:

Seit 1992: 24 nationale, europäische und internationale Patente zu unterschiedlichen Problemstellungen im Bereich Material-, Werkstoff- und Verfahrensentwicklung.

Themenkomplexe: Metallische Gläser und Komposite, nanostrukturierte hochfeste Materialien, Erhöhung von Festigkeit und Duktilität in neuartigen Legierungen, hartmagnetische Materialien, supraleitende Materialien, Oberflächenmodifikation, intermetallische Verbindungen, poröse Massivmaterialien und Hybridstrukturen