

# Table of Contents

## Preface

### Comparative Study from Drop-Tube Experiments and Ab-Initio Calculations of the $\sigma$ Phase in the Re-W and Re-Ta Systems during Solidification far from Equilibrium

C. Berne, A. Pasturel, E. Rolland and B. Vinet 3

### A Unified Landau-Ginzburg Model of Undercooling and Superheating of Crystal-Melt Transition

M. Iwamatsu 9

### Structural Stability in Nanocrystal ZnS

J.Z. Jiang, L. Gerward, J.S. Olsen, D. Frost, R. Secco and J. Peyronneau 15

### Diffusion in Amorphous Alloys and Grain Boundaries: The Correlation between $D_0$ and Q

V. Naundorf, M.P. Macht, A.S. Bakai and N. Lazarev 21

### Grain-Size Refinement in Al-Mn-Ce Rapidly-Quenched Alloys

R. Nicula, A. Jianu, G. Holzhüter, T. Barfels and E. Burkel 27

### Electron Microscopy and Synchrotron Radiation Powder Diffraction Study of Icosahedral Ti-Zr-Ni Alloys

F. Vasiliu, A. Jianu, R. Nicula and E. Burkel 33

### Experimental Determination of the Formation Enthalpies of Al-Y and Al-Y-Ni Amorphous Alloys

I.A. Tomilin, A.A. Turchanin, S.A. Dogel, J. Latuch and T. Kulik 37

### Anomalies of Mechanical and Physical Properties of the Fe<sub>83</sub>B<sub>17</sub> Eutectic Metallic Glass and their Connection with the Peculiarities of Nanoclusterous Structure

V.Z. Bengus, A. Beznosov, V. Desnenko, V.V. Eremenko, E. Fertman and E.D. Tabachnikova 43

### Nonequilibrium Processing of Polymeric Materials by Mechanical Attrition

C.C. Koch, A.P. Smith, C. Bai, R.J. Spontak and C.M. Balik 49

### On the Size Effects in Fullerite Nanoparticles

V.I. Zubov, J.N. Teixeira Rabelo and I.V. Mamontov 57

### Solid-State Formation of Carbon and Boron Nitride Nanotubes

Y. Chen, L.T. Chadderton, J.S. Williams and J. Fitz Gerald 63

### Multi-Wall Nanotubes: Stability and Properties

M. Damnjanović, T. Vuković and I. Milošević 68

### Symmetry Based Analyses of Optical Activity of Single- and Double-Wall Carbon Nanotubes

I. Milošević, M. Damnjanović and T. Vuković 73

### Ferromagnetic Bulk Glassy Alloys with Useful Engineering Properties

K.B. Kim, H. Koshiba and T. Itoi 81

### Structural and Magnetic Behaviour of the Rapidly Quenched Nd-Fe-Si Alloys

H. Chiriac, K.B. Kim, N. Lupu and A. Takeuchi 91

### Effect of Co and Cu Alloying on Nd-Fe-Al Based Bulk Amorphous Alloys

G.J. Fan, J. Eckert, W. Löser, S. Roth and L. Schultz 97

### Glass Forming Ability in the Zr-Nb-Ni-Cu-Al Bulk Metallic Glasses

C.C. Hays, J. Schroers, U. Geyer, S. Bossuyt, N. Stein and W.L. Johnson 103

### Effect of Additive Elements on the Glass Forming Ability and Crystallization of Zr-Ti-Cu-Ni Metallic Glasses

C.J. Choi, H.U. Yang, B.K. Kim and J.H. Ahn 109

### The Effect of Nitride Addition on the Thermal Stability of Mechanically Alloyed Amorphous Zr<sub>65</sub>Al<sub>7.5</sub>Cu<sub>17.5</sub>Ni<sub>10</sub> Alloy

C.R. Zhou, K. Lu and J. Xu 116

### Bulk Amorphous Alloys: Preparation and Properties of (Mg<sub>0.98</sub>Al<sub>0.02</sub>)<sub>x</sub>(Cu<sub>0.75</sub>Y<sub>0.25</sub>)<sub>100-x</sub>

M.M. Eldrup, A. Schröder Pedersen, M. Ohnuma, N. Pryds and S. Linderoth 123

### Thermal Stability and Viscosity of Mg-Based Glasses and Composites

B. Weiss and J. Eckert 129

### Impurity Diffusion in ZrTiCuNiBe Bulk Metallic Glasses

T. Zumkley, M.P. Macht, V. Naundorf, J. Rüsing and G. Frohberg 135

<b>Relation between Diffusion and Decomposition Kinetics in Zr<sub>41</sub>Ti<sub>14</sub>Cu<sub>12.5</sub>Ni<sub>10</sub>Be<sub>22.5</sub> Bulk Glass</b>	
M.P. Macht, V. Naundorf, P. Fielitz, J. Rüsing, E. Budke and G. Frohberg	140
<b>Pressure-Volume Relation of Zr-Ti-Cu-Ni-Be Bulk Metallic Glass</b>	
W.H. Wang, Z.X. Bao and J. Eckert	146
<b>Crystallisation of Zr-Based Bulk Metallic Glasses during Fast Heating in a Synchrotron Beam</b>	
A.R. Yavari, A. Le Moulec, A. Inoue, J. Saida, C.H. Li, W.J. Botta Filho, G. Vaughan and Å. Kvick	151
<b>Atomic Force Microscopy Studies on Duplex Microstructures of Nanocrystalline-Amorphous in Zr-Based Metallic Glass</b>	
T. Benameur, A. Touhami and A.R. Yavari	159
<b>Crystallization of Zr<sub>41</sub>Ti<sub>14</sub>Cu<sub>12</sub>Ni<sub>10</sub>Be<sub>23</sub> Melts</b>	
J. Schroers, R. Busch and W.L. Johnson	167
<b>Crystallization Behavior and Stability of ZrTiCuNiBe Glasses</b>	
M.P. Macht, Q. Wei, N. Wanderka, I. Sieber and N.P. Deyneka	173
<b>Comparison of the Decomposition and Crystallization Behavior of Zr and Pd Based Bulk Amorphous Alloys</b>	
J.F. Löffler, W.L. Johnson, W. Wagner and P. Thiyagarajan	179
<b>Formation of Nanocrystals in Zr-Al-Cu-Ni Alloys</b>	
N. Mattern, H.D. Bauer and J. Eckert	185
<b>Enhanced Plasticity of Bulk Metallic Glasses Containing Ductile Phase Dendrite Dispersions</b>	
C.C. Hays, C.N.P. Kim and W.L. Johnson	191
<b>Low Temperature Ductile Shear Failure of Zr<sub>41.2</sub>Ti<sub>13.8</sub>Ni<sub>10</sub>Cu<sub>12.5</sub>Be<sub>22.5</sub> and Cu<sub>50</sub>Zr<sub>35</sub>Ti<sub>8</sub>Hf<sub>5</sub>Ni<sub>2</sub> Bulk Amorphous Alloys</b>	
E.D. Tabachnikova, V.Z. Bengus, J. Miskuf, K. Csach, V. Ocelík, W.L. Johnson and V. Molokanov	197
<b>Hydrogenation and Oxidation of Zr-Based Metallic Glasses, Quasicrystalline or Nanocrystalline Alloys</b>	
U. Köster, D. Zander and Triwikantoro	203
<b>Corrosion Behaviour of Bulk Amorphous and Crystalline Zr<sub>55</sub>Al<sub>10</sub>Cu<sub>30</sub>Ni<sub>5</sub> Alloys at Ambient and Elevated Temperature</b>	
K. Buchholz, A. Gebert, K. Mummert, J. Eckert and L. Schultz	213
<b>Identification of Key Surface Processes for Vapor Deposited Amorphous Metallic Film Growth</b>	
S.G. Mayr, M. Moske and K. Samwer	221
<b>Production of Thin Films of Metastable Materials by Cross-Beam Pulsed Laser Deposition</b>	
A. Tselev, A.I. Gorbunov, H. Geisler, A. Mensch, D.C. Meyer and W. Pompe	231
<b>Structural Characterization of Laser Deposited Fe/Al Multilayers</b>	
K. Brand, J. Noetzel, H. Geisler, A. Mensch, A.I. Gorbunov and H. Lichte	237
<b>Structural Phase Transformation Observed with In-Situ Mechanical Stress Measurement during the Growth of Amorphous Fe<sub>100-x</sub>Zr<sub>x</sub> Films</b>	
A. Grob, U. Herr and K. Samwer	243
<b>Metastable Phase Formation in Fe-Al Thin Films Cocondensed by Cross-Beam Pulsed Laser Deposition</b>	
H. Geisler, A. Mensch, A. Tselev, A.I. Gorbunov and H. Worch	249
<b>Grain Boundaries and Mechanical Properties of Nanocrystalline Diamond Films</b>	
H. Busmann, A. Pageler, U. Brauneck and D.M. Gruen	255
<b>Thermal Stability of Nanostructured Cr<sub>3</sub>C<sub>2</sub>-NiCr Coatings</b>	
J. He, M. Ice and E.J. Lavernia	261
<b>Synthesis and Characterization of Cryomilled SiC Reinforced Al Coatings</b>	
M. Ice, R. Rodriguez, D. Cheng, G. Kim, M. Trudeau, J. Terlecki and E.J. Lavernia	267
<b>Dispersion Strengthened Materials Obtained by Mechanical Alloying - An Overview</b>	
T. Weissgaerber and B. Kieback	275
<b>Non-Monotonic Decomposition in the Immiscible Ag-Cu System</b>	
H.H. Tian and M. Atzman	284
<b>Al-Ni Intermetallics Produced by Spontaneous Reaction during Milling</b>	
O. Coreño Alonso, J.G. Cabañas-Moreno, J.J. Cruz-Rivera, G. Florez-Díaz, A. De Ita, S. Quintana-Molina and C. Falcony	290

<b>Formation of the Ordered Phases during Mechanical Alloying of 50Fe - 25Al - 25Si(at.%) Mixtures</b>	296
V.I. Fadeeva, I.A. Sviridov, G.A. Kochetov and Y.V. Baldokhin	
<b>Structural Investigations of the TiC-Fe(Al) Nanocomposite Formed by Mechanical Alloying</b>	302
M. Krasnowski and H. Matyja	
<b>Formation of Ni-Al-Ti-C Nanocomposites by Mechanical Alloying</b>	308
K. Krivoroutchko, V.K. Portnoy, H. Matyja and V.I. Fadeeva	
<b>Thermal Behavior of Mechanically Aligned Al<sub>3</sub>Nb Nanocrystalline Powders</b>	314
K.M. Lee, H. Yang, J.S. Lee, S.S. Kim, I.S. Ahn and M.W. Park	
<b>Formation of Nanocrystalline FeAl-NbC and FeAl-VC Composites by Mechanical Alloying</b>	320
D. Oleszak and H. Matyja	
<b>Melting Point Depression and Microstructure in Ball-Milled Nanocrystalline Aluminium Powders</b>	326
A. Revesz, J. Lendvai and T. Ungár	
<b>Mechanically Induced Disorder in Magnesium Ferrite</b>	332
V. Šepelák and K.D. Becker	
<b>X-Ray Study of the Kinetics of Mechanical Alloying</b>	338
V.V. Tcherdyntsev, S.D. Kaloshkin, I.A. Tomilin and E.V. Shelekhov	
<b>Structural Investigation of a Mechanically Aligned Nd<sub>40</sub>Fe<sub>60</sub> Powder</b>	344
G. Khélifati, J. Le Breton and J. Teillet	
<b>Crystallisation of Melt-Spun Al-Fe-Nd-Cu Alloys</b>	353
J.W.M. Espinosa, K.R. Cardoso, A.R. Yavari and W.J. Botta Filho	
<b>Primary Crystallization of Al-Based Metallic Glasses</b>	359
M. Calin, A. Rüdiger and U. Köster	
<b>Evaluation of the Volume Fraction Crystallised during Devitrification of Al-Based Amorphous Alloys</b>	365
T. Gloriant, M. Gich, S. Suriñach, M.D. Baró and A.L. Greer	
<b>Nucleation Behavior of α-Fe in Amorphous Fe-7Zr-5B-1Au Alloy</b>	371
Y. Zhang, N. Wanderka, U. Czubayko, F. Zhu and H. Wollenberger	
<b>The Influence of the Annealing Atmosphere on the Nanocrystallization Behaviour and on the Magnetic and Mechanical Properties of Amorphous FeZrBCu - Base Alloys</b>	377
H. Grahl, M. Müller and N. Mattern	
<b>Synthesis of Metal-Oxide Nanoparticles by Mechanochemical Processing</b>	383
T. Tsuzuki and P.G. McCormick	
<b>Mechanosynthesis of a New Tin Sulphide Phase</b>	389
P. Baláz and T. Ohtani	
<b>Synthesis of Al<sub>2</sub>O<sub>3</sub>-TiC by Reactive Milling</b>	393
E.M.J.A. Pallone, R. Tomasi and W.J. Botta Filho	
<b>Microstructure and Properties of Ti-TiN In-Situ Composites Prepared by Reactive Ball Milling of Ti in Ammonia Followed by Hot Pressing</b>	399
D. Wexler, A. Calka and A.Y. Mosbah	
<b>Hydrogen Disproportionation by Reactive Milling and Recombination of Nd<sub>2</sub>Fe<sub>14</sub>B and Nd<sub>2</sub>Co<sub>14</sub>B Alloys</b>	405
O. Gutfleisch, A. Bollero, M. Kubis, K.-. Müller and L. Schultz	
<b>Mechanochemical Synthesis in Ti-C, Ti-B, B-C, B-C-Al Systems</b>	411
M. Savyak, I. Uvarova, I. Timofeeva, L. Isayeva and S. Kirilenko	
<b>Mechanochemical Preparation and Characterization of Nanocrystalline Ceramic Composites</b>	417
S. Indris and P. Heitjans	
<b>The Combustive Reduction of 2-(2,4-Dichlorophenoxy) Propionic Acid by Mechanochemical Methods</b>	423
M. Monagheddu, S. Doppio, L. Schiffini and G. Cocco	
<b>Effect of Reaction Medium on the Mechanochemical Decomposition of ZrH<sub>2</sub> and on the Reactivity of Hydride Hydrogen</b>	429
O.S. Morozova, A.N. Streletskii, I.V. Beresteskaya, A.V. Leonov and G.N. Kryukova	
<b>Reduction of Iron-Oxide by Ball-Milling with Hydrogen Gas Flow</b>	435
T. Nasu, K. Tokumitsu, T. Konno and K. Suzuki	

<b>Change in the Short Range Order in the Al - Transition Metal Hydroxides Mixed System by Mechanical Stressing</b>	441
S. Sekino, T. Isobe, M. Senna, T. Shinohara, F. Wagatsuma, K. Sumiyama and K. Suzuki	
<b>A Molecular Orbital Study on the Formation of Hetero-Metallocxane Bonds under Mechanical Stressing</b>	447
Y. Fujiwara, T. Isobe, M. Senna and M. Tanaka	
<b>Mechanochemical Synthesis of Niobium Hydrides</b>	453
V.K. Portnoy, K.V. Tretjakov, A.N. Strelets'kii and I.V. Beresteskaya	
<b>Innovative Processing of Nanostructured Films and Powders using Electrostatic Assisted Aerosol Based Deposition Methods</b>	461
K.L. Choy	
<b>Nanopowder and Nanostructured Film Synthesis in Low Pressure Flames</b>	468
N.G. Glumac, A. Colibaba-Evulet, B.H. Kear and G. Skandan	
<b>Studies on Nanocrystalline Ni/Al<sub>2</sub>O<sub>3</sub> Films Formed by Electrolytic DC Plating</b>	476
B. Müller and H. Ferkel	
<b>Properties of Alumina-Zirconia Nanocomposites</b>	482
R.J. Hellmig, J.F. Castagné and H. Ferkel	
<b>Synthesis of Si Nanoparticles within Buried Layers of SiO<sub>x</sub></b>	488
U. Kahler and H. Hofmeister	
<b>Shift of the Absorption Spectra of Undoped and Rare Earth Doped Nanocrystalline Yttria Prepared by Chemical Vapour Synthesis</b>	494
A. Konrad, T. Fries, A. Gahn, F. Kummer, U. Herr, R. Tidecks and K. Samwer	
<b>Low-Cost Nanopowders for Phosphor and Laser Applications by Flame Spray Pyrolysis</b>	500
R.M. Laine, T. Hinklin, G. Williams and S.C. Rand	
<b>Flame Synthesis of Spherical Nanoparticles</b>	511
S.E. Pratsinis, O. Arabi-Katbi, C.M. Megaridis, P.W. Morrison Jr., S. Tsantilis and H.K. Kammler	
<b>Supersonic Cluster Beam Synthesis of Nanostructured Materials</b>	519
P. Milani, P. Piseri, E. Barborini, L. Diederich, A. Podesta' and S. Iannotta	
<b>Production of Fe-Cu Ultrafine Particles by Plasma Jet Method</b>	525
M. Umemoto, Y. Todaka and K. Tsuchiya	
<b>Single Source Precursor-CVD for Nano-Scaled Ceramics and Cermets</b>	531
M. Veith	
<b>On the Development of a Low Temperature, Superplastic Nanocrystalline 5 Mol.% Yttria Stabilised Zirconia: Synthesis, Processing and Mechanical Characterisation</b>	539
U. Betz, S.S. Bhattacharya and H. Hahn	
<b>Application of Pulsed Power and Microwave Techniques for the Production of Nanocrystalline Powders and Ceramic Bulk Materials</b>	545
A. Weisenburger	
<b>Hydrogenation-Disproportionation Reactions in Nd<sub>14.01</sub>Fe<sub>78.91</sub>Hf<sub>0.08</sub>B<sub>6.99</sub></b>	551
C.E. Rodríguez Torres, F.D. Saccone, F.H. Sánchez and L. Mendoza-Zélis	
<b>Hydrogen-Induced Amorphization of SmFe<sub>3</sub></b>	557
M. Kubis, A. Handstein, B. Gebel, O. Gutfleisch, K.-. Müller and L. Schultz	
<b>Synthesis of Nano-Structured Fe/Fe<sub>3</sub>O<sub>4</sub> Complex Particle by Thermal Decomposition of Wüstite</b>	562
K. Tokumitsu and T. Nasu	
<b>Structural Study of Nano-Size Ceramic Particles Fabricated by Cavitation</b>	568
K. Tokumitsu	
<b>Phase Instability of Nanocrystalline Driven Alloys</b>	577
A.Y. Yermakov, V.L. Gapontzev, V.V. Kondratyev, Y.N. Gornostyrev, M.A. Uimin and A.Y. Korobeinikov	
<b>Thermodynamic Simulation of Mechanically Alloyed Solid Solution Formation in Fe-Sn System</b>	585
G.A. Dorofeev, E.P. Yelsukov, A.L. Ul'anov and G.N. Konygin	
<b>Thermodynamic Description of the Phase Transformation Mechanism during Mechanical Alloying Process</b>	591
S.D. Kaloshkin	
<b>The Formation Sequence of Intermediate Phases in Mechanical Alloying of Binary Systems</b>	597
Y.A. Skakov	

<b>Computer Simulation of Mechanoactivation Process in the Planetary Ball Mill: Determination of the Energy Parameters of Milling</b>	603
E.V. Shelekhov, V.V. Tcherdyntsev, L.Y. Pustov, S.D. Kaloshkin and I.A. Tomilin	
<b>Diffusion Decomposition of Nanocrystalline Alloys at Generation of Non-Equilibrium Vacancies on Grain Boundaries</b>	609
V.L. Gapontzev, A.G. Kesarev, A.Y. Yermakov and V.V. Kondratyev	
<b>The Kinetics of Ball Milling Induced Amorphization in NiNb Intermetallic and Elemental Mixture of the same Composition</b>	615
E.V. Shelekhov, T.A. Sviridova, Y.A. Skakov and N.P. Djakonova	
<b>Hot-Forming of Silicide-Dispersion-Strengthened Titanium Aluminides (SDS-TiAl) with Grain Sizes in the Submicron Range</b>	623
G. Fanta, R. Bohn, M. Dahms, T. Klassen and R. Bormann	
<b>Thermal Stability and Densification of Nanostructured Titanium Carbide and Graphite/nTiC Composite</b>	629
P. Baviera, S. Harel, H. Garem and M. Grosbras	
<b>Characterization of NiAl Intermetallic Produced by Mechanical Alloying and Consolidated by Spark Plasma Sintering</b>	635
O. Coreño Alonso, J.G. Cabañas-Moreno, J.J. Cruz-Rivera, H.A. Calderón, M. Umemoto, K. Tsuchiya, S. Quintana-Molina and C. Falcony	
<b>Characterization of Cu-Co Alloys Produced by Mechanosynthesis and Spark Plasma Sintering</b>	641
L. Diaz Barriga Arceo, J.J. Cruz-Rivera, J.G. Cabañas-Moreno, K. Tsuchiya, M. Umemoto and H.A. Calderón	
<b>X-Ray Analysis of Nanostructural Materials Made by Reactive Ball Milling: The Effect of Wavelength on Signal to Background Ratio</b>	649
A. Calka, D. Wexler and A. Stevenson	
<b>Microstructural Characterisation of Amorphous and Nanocrystalline Structures Through Diffraction Methods</b>	657
L. Lutterotti, R. Campostrini, S. Gialanella and R. Di Maggio	
<b>Inelastic Neutron Scattering Studies of <math>Zr_{100-\chi}Al_\chi</math> Solid Solutions</b>	665
F. Jurányi, E. Dost, J.B. Suck and R. Lechner	
<b>Atomic Dynamics of Amorphous and Nanocrystalline <math>Ni_{80}P_{20}</math></b>	671
S. Mentese, J.B. Suck and A.J. Dianoux	
<b>Radial Distribution Function of Amorphous Silicon Oxycarbide Compounds</b>	677
H. Brequel, G.D. Sorarù, L. Schiffini and S. Enzo	
<b>In-Situ X-Ray Crystallite Growth Study on Nanocrystalline Fe</b>	683
H. Natter, M. Schmelzer, M.-. Löffler and R. Hempelmann	
<b>X-Ray Crystallographic Characterization of Nanocrystalline and Amorphous <math>YNi_2B_2C</math> Superconductors</b>	689
B. Müller, L. Ledig, D. Hough, C.G. Oertel, W. Skrotzki, A. Gümbel and J. Eckert	
<b>X-Ray Powder Diffraction and Mössbauer Study of Red Mud Residue from Alumina Production</b>	695
G. Budroni, G. Cocco, J.Z. Jiang, G. Carturan and S. Enzo	
<b>3-D Atom Probe Studies of Some Nanostructured Materials</b>	701
P.J. Warren, M. Thuvander, M. Hourai, H. Lane, A. Cerezo and G.D.W. Smith	
<b>Mechanically Alloyed Nanocrystalline <math>Cu_{80}Co_{20}</math> Investigated by AP/FIM and 3DAP</b>	709
V.A. Ivchenko, N. Wanderka, U. Czubayko, V. Naundorf, A.Y. Yermakov, M.A. Uimin and H. Wollenberger	
<b>Microstructural Characterisation of the Mechanically Alloyed <math>Cu_{88}Fe_{12}</math> and <math>Cu_{72}Co_{28}</math> Compounds and of the Ball Milled <math>Cu_{80}(Fe_{0.3}Co_{0.7})_{20}</math> Pseudo-Alloy</b>	715
S. Galdeano, L. Chaffron, M.H. Mathon, G. André, E. Vincent and C.-. De Novion	
<b>Mössbauer and SANS Study of Fe-Powder Mechanically Alloyed with Carbon</b>	721
V.M. Nadutov, V.M. Garamus and J. Rawers	
<b>Structural Stability and High-Temperature Positron Lifetime Study of Mechanically Alloyed Nanocrystalline Pd-Zr</b>	726
E. Shapiro, R. Würschum, H.E. Schaefer, H. Ehrhardt, C.E. Krill III and R. Birringer	
<b>Structural and Thermal Studies of HfPd System Prepared by Mechanical Alloying</b>	732
M. Al-Assiri, A. Al-Hajry, J. Hefne, A. Al-Shahrani, B. Pichaud, S. Al-Heniti and N. Cowlam	

<b>Local Structure of Amorphous and Metastable Alloys as seen by Mechanical Hydrogen Relaxation</b>	738
H.R. Sinning and R. Scarfone	
<b>The Effect of Absorbed Hydrogen on the Chemical Short-Range Order in Zr<sub>68</sub>Fe<sub>32</sub> Metallic Glass</b>	744
I. Kokanović, B. Leontić, J. Lukatela and A. Tonejc	
<b>Deformation of Structural Superplastics, Nanostructured Materials and Metallic Glasses: A Unified Approach</b>	753
K.A. Padmanabhan	
<b>The Behavior of Quasicrystal Reinforced Extruded Al Alloys under Tensile Loading at Room and Elevated Temperatures</b>	761
V. Haas, K. Saitoh, D. Nakazato and K.B. Kim	
<b>Production and Characterization of Nanostructured Ti-Based Intermetallics</b>	767
V. Garibay-Febles, H.A. Calderón, A.F. Cabrera, M. Umemoto, J.G. Cabañas-Moreno and K. Tsuchiya	
<b>SPD Processing and Properties of Metastable Nanostructured Alloys</b>	773
R. Valiev	
<b>Development of Equilibrium Submicrocrystalline Structure in Superalloy MA754</b>	779
V. Valitov, R. Kaibyshev and N. Gajnudinova	
<b>Nanocrystalline Ball Milled fcc-FeRh Alloys</b>	787
A. Hernando and E. Navarro	
<b>Ball Milled Amorphous (Fe<sub>0.5</sub>Cu<sub>0.5</sub>)<sub>85</sub>Zr<sub>15</sub> Alloys</b>	793
P. Crespo, A. Hernando, A. García Escorial, F.J. Castaño and M. Multigner	
<b>Thermal Decomposition of Mechanically Alloyed (Fe<sub>x</sub>Cu<sub>1-x</sub>)<sub>93</sub>Zr<sub>7</sub> (x=0.5, 0.7) Solid Solutions</b>	800
M. Multigner, A. Hernando, P. Crespo, G. Rivero, A. García Escorial, C. Stiller, L. Schultz and J. Eckert	
<b>Structural and Magnetic Investigation of Mechanically Alloyed Fe-M-B (M=Nb, Zr, Hf) Powders</b>	806
H. Chiriac, A. Moga, M. Urse and C. Hison	
<b>Correlation between the Microstructure and Enhanced Room Temperature Coercivity in Ball Milled Ferromagnetic - Antiferromagnetic Composites</b>	812
J. Sort, J. Nogués, X. Amils, S. Suriñach, J.S. Muñoz Domínguez and M.D. Baró	
<b>Superparamagnetism and Giant Magnetoresistance in Partially Milled and Annealed Fe<sub>0.30</sub>Cr<sub>0.70</sub></b>	819
C. Bellouard, P. Delcroix and G. Le Caër	
<b>Magnetic Study of Nanocrystalline Fe<sub>67</sub>W<sub>33</sub> Alloy</b>	825
K. Pękała, D. Oleszak, E. Jartych and J.K. Żurawicz	
<b>Thermomagnetic Investigation of the Ni-Pd-P Glasses</b>	830
O. Nakonechna, A.R. Yavari and M. Zakharenko	
<b>Effect of Annealing in Hydrogen on Composition, Structure and Magnetic Properties of Rapidly Quenched Fe-Co-Si-TM-B Ribbons</b>	835
G. David, S. Roth, J. Eckert and L. Schultz	
<b>Influence of the Grain Size on the Magnetic Properties of Ball Milled Fe<sub>90</sub>W<sub>10</sub></b>	841
M. Kis-Varga, D.L. Beke and L. Daróczai	
<b>Magnetic Properties of Grain Boundaries and Precipitates in Nanocrystalline Ni and Ni-Cu Alloys</b>	847
H. Wolf, Z. Guan, S. Lauer, H. Natter, M. Schmelzer, R. Hempelmann and T. Wichert	
<b>Electrochemical Characterization of Rapidly-Densified Ni-Mo Electrodes</b>	855
S.D. De la Torre, D. Oleszak, F. Almeraya-Calderón, A. Martínez-Villafaña, R. Martínez-Sánchez, D. Ríos-Jara and H. Miyamoto	
<b>Enhanced Corrosion Resistance of Amorphous and Nanocrystalline FeNbB Alloys</b>	861
N.A. Mariano, C.A.C.d. Souza, M.F.d. Oliveira and S.E. Kuri	
<b>Scanning Kelvin Probe Investigations on Highly Distorted Metals</b>	867
K. Nocke, M. Schneider and H. Worch	
<b>Investigation of Passive Layer Properties on Nanocrystalline Nickel by Electrochemical Impedance Spectroscopy</b>	873
M. Schneider, K. Pischang, H. Worch, G. Fritsche and P. Klimanek	
<b>Electron Transport in Amorphous Al-Y-TM (TM=Cu, Ni, Co, Fe) Alloys</b>	880
K. Pękała, P. Jaśkiewicz and J. Latuch	

<b>Metal Supported Catalysts Prepared by Mechanical Alloying Processes</b> G. Mulas, S. Deledda, M. Monagheddu, G. Cocco, M.G. Cutrufello, I. Ferino and V. Solinas	889
<b>Mechanically Induced Disordered VOHPO<sub>4</sub> x 0.5 H<sub>2</sub>O Structure and its Behaviour in the Phase Transformation in the Presence of Ammonia</b> L. Wilde, U. Steinike, A. Martin, M. Fait and B. Müller	895
<b>Influence of the Preparation Conditions of NiZr Rapidly Solidified Catalysts Precursors on the Structural Evolution during the Activation Treatment</b> M. Tomut, H. Chiriac, M. Urse and A. Moga	901
<b>High Energy Ball Milled Nanocrystalline ZnO Varistors</b> H. Alamdari, S. Boily, M. Blouin, A. Van Neste and R. Schulz	909
<b>Production and Characterization of Mn-Si Thermoelectric Material</b> M. Umemoto, Z.G. Liu, R. Omatsuzawa and K. Tsuchiya	918
<b>Variation of Superconductivity in Mechanically Alloyed Pseudo-Quaternary Y-Pt/Pd-B-C</b> A. Gümbel, J. Eckert, A. Handstein, W. Skrotzki and L. Schultz	924
<b>Nanocrystalline Composites for Thermal Spray Applications</b> F. Gärtner, R. Bormann, T. Klassen, H. Kreye and N. Mitra	933
<b>Product Engineering of Gas-Born Nano-Sized Particles</b> H. Mühlenweg, A. Schild, A. Gutsch, C. Klasen and S.E. Pratsinis	941
<b>Gas Phase Synthesis of Size Selected SnO<sub>2</sub> Nanoparticles for Gas Sensor Applications</b> M.K. Kennedy, F.E. Kruis and H. Fissan	949
<b>Processing of Ceramic Powder using High Energy Milling</b> H. Zoz and H. Ren	955
<b>Gas Pressure and Temperature Measuring System (GTM) for In-Situ Data Acquisition during Planetary Ball Milling</b> R. Scholl, R. Wegerle and W. Mutter	964
<b>Interfaces in Alumina-Zirconia Ceramics for Ball-Bearing Applications</b> S.D. De la Torre, H. Kume, Y. Nishikawa, S. Inamura, A. Kakitsuji, H. Miyamoto, K. Miyamoto, D. Ríos-Jara, H. Tsuda and K. Morii	973