Subject Index of Volume 194

Absorption

enhancement effects of Y(III) ion on Tb(III) fluorescence in Tb(III)-Y(III)-benzoic acid complexes, 19

Actinides

alloying behaviour among U, Np, Pu and Am predicted with the Brewer valence bond model, 1

Alloying

alloying behaviour among U, Np, Pu and Am predicted with the Brewer valence bond model, 1

a molecular dynamics study of atomic level stress distributions in defective intermetallics, 417

Aluminides

ternary aluminides LnPd₂Al with YPd₂Si-type structure, 179

Aluminium

the influence of the electron-to-atom ratio on the martensitic transformation enthalpy and entropy values in Cu-Zn-Al shape memory alloys, L9

surface study of chemically treated $LaNi_{4.7}Al_{0.3}$ alloy, 73 enthalpies of formation and crystallization of amorphous $Zr_{1-x}Al_x$ and $Zr_{1-x}Ni_x$ alloys: calculations compared with measurements, 235

lattice destabilization and amorphization by mechanical alloying in the Ti-Al system, 331

ion beam induced amorphization in the intermetallic compounds NiTi and NiAl, 373

in situ studies of amorphization of the Ge-Al and Si-Al systems induced by 1 MeV electron irradiation, 389 Amorphous alloys

EXAFS study of chemical short-range order in amorphous Ni_xTi_{1-x} alloys, 77

Antiferromagnetism

crystal structure and magnetic properties of $D_uY_2BaCuO_5$ (u=0.00, 0.61, 1.31), 13

Antimony

bulk amorphous Zn-Sb under normal and high pressures: phase transformations and relaxation phenomena, 279

solid state amorphization transformations induced by mechanical alloying, 325

Carbonates

solid–liquid equilibria of Nd^{3+} in carbonate solutions, 93 Cerium

phase diagram of the Ce-Rh system, 63

the role of cerium in potassium titanyl phosphate (KTiOPO₄), 139

an investigation by EXAFS of the thermal dehydration and rehydration of cerium- and erbium-exchanged Y-zeolite, 167

Chromium

on the thermodynamics of the β -phase in Cr-Ti, 263 the diffuse ω structure: its relationship to spontaneous vitrification in β -Ti-Cr, 273

Cobalt

amorphous alloys formed by solid state reaction, 221 mechanical milling of ordered intermetallic compounds: the role of defects in amorphization, 287

Copper

the influence of the electron-to-atom ratio on the martensitic transformation enthalpy and entropy values in Cu-Zn-Al shape memory alloys, L9

far-from-equilibrium phase transition induced by mechanical alloying in the Cu-Fe system, 23

room temperature and 500 °C isothermal sections of the Ag-Cu-Dy (0-33.3 at.% Dy) phase diagram, 59

radiation-induced crystalline-to-amorphous transition in intermetallic compounds of the Cu-Ti alloy system, 429

Crystallization

nanophase processing of amorphous alloys, 245

Dehydriding

hydriding-dehydriding reactions of LaNi_{4.7}Al_{0.3}-H system under quasi-isothermal conditions, 173

Diffuse scattering

the diffuse ω structure: its relationship to spontaneous vitrification in β -Ti-Cr, 273

Diffusion

diffusional aspects of the solid state amorphization reaction, 199

the effect of non-linear diffusion on solid state amorphization in Ni-Hf: experiment and simulation, 213

Disordering

intrinsic response of crystals to pure dilatation, 407 Dysprosium

room temperature and 500 °C isothermal sections of the Ag-Cu-Dy (0-33.3 at.% Dy) phase diagram, 59

Elasticity

elastic behaviour of Mn–Zn ferrites, 105 relation between Poisson's ratio and ionicity in simple binary cubic compounds, 119

intrinsic response of crystals to pure dilatation, 407 the role of chemical disorder and volume expansion in crystal-to-amorphous transitions: simulation results for NiZr₂ and Cu₃Au, 439

Electrical conductivity

electrical conduction of potassium yttrium fluoride thin films, L1

Emission spectra

enhancement effects of Y(III) ion on Tb(III) fluorescence in Tb(III)-Y(III)-benzoic acid complexes, 19

Energy transfer

enhancement effects of Y(III) ion on Tb(III) fluorescence in Tb(III)-Y(III)-benzoic acid complexes, 19

Equilibria

solid–liquid equilibria of Nd^{3+} in carbonate solutions, 93 Erbium

an investigation by EXAFS of the thermal dehydration and rehydration of cerium- and erbium-exchanged Y-zeolite, 167

Ferrites

elastic behaviour of Mn-Zn ferrites, 105

Fluorescence

enhancement effects of Y(III) ion on Tb(III) fluorescence in Tb(III)-Y(III)-benzoic acid complexes, 19

Gadolinium

amorphous alloys formed by solid state reaction, 221 Gallium

InTaO₄ und GaTaO₄ mit geordneter und ungeordneter Metallverteilung, 101

Gaseous impurities

on the influence of gaseous impurities in the amorphization reaction of some titanium-based alloys, 311

Germanium

in situ studies of amorphization of the Ge-Al and Si-Al systems induced by 1 MeV electron irradiation, 389

Hafnium

the effect of non-linear diffusion on solid state amorphization in Ni-Hf: experiment and simulation, 213

Hydrides

interaction of intermetallic compounds with hydrogen at pressures up to 250 MPa: the LaCo_{5-x}Mn_x-H₂ and CeNi₅-H₂ systems, 41

surface study of chemically treated LaNi_{4.7}Al_{0.3} alloy, 73 specific heats of NbH_{0.87} and NbH_{0.90} in the temperature range 80-430 K, 141

Hydriding

an investigation by EXAFS of the thermal dehydration and rehydration of cerium- and erbium-exchanged Y-zeolite, 167

hydriding-dehydriding reactions of LaNi_{4.7}Al_{0.3}-H system under quasi-isothermal conditions, 173

Hydrogenation

hydrogenation and nitrogenation of SmFe₂, 31 hydrogenation of Sm₂Fe₁₇, 113

solid state amorphization of intermetallic compounds by hydrogenation, 251

Hydrolysis

the hydrolysis reaction of some cubic and tetragonal lanthanide dicarbide solid solutions, 109

Indium

an X-ray diffraction study of the solid phase equilibria in some M-In-P systems (M≡Ni, Pd, Pt), 67

InTaO₄ und GaTaO₄ mit geordneter und ungeordneter Metallverteilung, 101

Intermetallic compounds

interaction of intermetallic compounds with hydrogen at pressures up to 250 MPa: the LaCo_{5-x}Mn_x-H₂ and CeNi₅-H₂ systems, 41

solid state amorphization of intermetallic compounds by hydrogenation, 251

mechanical milling of ordered intermetallic compounds: the role of defects in amorphization, 287

Ionicity

relation between Poisson's ratio and ionicity in simple binary cubic compounds, 119

Iron

structural and intrinsic magnetic properties of $Sm_2Fe_{17}N_y$ (y = 2-8), 9

far-from-equilibrium phase transition induced by mechanical alloying in the Cu-Fe system, 23

hydrogenation and nitrogenation of SmFe2, 31

hydrogenation of Sm₂Fe₁₇, 113

diffusion patterns of nitrogen in the Fe₁₇Nd₂ compound as a function of temperature, 181

far from equilibrium phase transition induced by solid-state reaction in the Fe-Si system, 339

Irradiation

electron-irradiation-induced crystalline-to-amorphous transition in transition metal borides, 381

in situ studies of amorphization of the Ge-Al and Si-Al systems induced by 1 MeV electron irradiation, 389

crystalline-amorphous transition of NiZr₂, NiZr and Ni₃Zr by electron irradiation, 401

Kinetics

solid-state amorphizing transformations: thermodynamics and kinetics, 189

ion beam induced amorphization in the intermetallic compounds NiTi and NiAl, 373

Lanthanides

the hydrolysis reaction of some cubic and tetragonal lanthanide dicarbide solid solutions, 109

Lanthanum

surface study of chemically treated LaNi_{4.7}Al_{0.3} alloy, 73

Magnetic ordering

ternary aluminides LnPd₂Al with YPd₂Si-type structure, 179

Magnetic properties

structural and intrinsic magnetic properties of $Sm_2Fe_{17}N_y$ (y = 2-8), 9

crystal structure and magnetic properties of $D_uY_2BaCuO_5$ (u = 0.00, 0.61, 1.31), 13

intrinsic and hard magnetic properties of rapidly quenched NdFe₁₀Mo₂N_x ribbons, 87

nanophase processing of amorphous alloys, 245

Manganese

elastic behaviour of Mn-Zn ferrites, 105

Mechanical alloying

far-from-equilibrium phase transition induced by mechanical alloying in the Cu-Fe system, 23

the structure of amorphous binary metal-metal alloys prepared by mechanical alloying, 295

medium-range structure variations in the solid state amorphizing transformation of metallic alloys by mechanical milling, 303

on the influence of gaseous impurities in the amorphization reaction of some titanium-based alloys, 311

metastable melting phenomena and solid state amorphization (SSA) by mechanical alloying, 319

solid state amorphization transformations induced by mechanical alloying, 325

lattice destabilization and amorphization by mechanical alloying in the Ti-Al system, 331

amorphization of mixed Ni and Zr powders by mechanical alloying, 361

Mechanical grinding

medium-range structure variations in the solid state amorphizing transformation of metallic alloys by mechanical milling, 303

Metal hydrides

LiSr₂PdH₅, the first mixed alkali-alkaline earth transition metal hydride, L11

hydriding-dehydriding reactions of LaNi_{4.7}Al_{0.3}-H system under quasi-isothermal conditions, 173

Migration

in situ studies of amorphization of the Ge-Al and Si-Al systems induced by 1 MeV electron irradiation, 389 Milling

mechanical milling of ordered intermetallic compounds: the role of defects in amorphization, 287

medium-range structure variations in the solid state amorphizing transformation of metallic alloys by mechanical milling, 303

amorphization of mixed Ni and Zr powders by mechanical alloying, 361

Nanophase processing

nanophase processing of amorphous alloys, 245

Neodymiun

diffusion patterns of nitrogen in the Fe₁₇Nd₂ compound as a function of temperature, 181

Neptunium pentafluoride

preparation, chemical reactions, and some physical properties of neptunium pentafluoride, 133

Nickel

surface study of chemically treated LaNi_{4.7}Al_{0.3} alloy, 73

EXAFS study of chemical short-range order in amorphous Ni_xTi_{1-x} alloys, 77

the effect of non-linear diffusion on solid state amorphization in Ni-Hf: experiment and simulation, 213

effect of sharp concentration gradients on crystal nucleation in amorphous layers obtained by solid state reaction, 229

enthalpies of formation and crystallization of amorphous $Zr_{1-x}Al_x$ and $Zr_{1-x}Ni_x$ alloys: calculations compared with measurements, 235

amorphization of mixed Ni and Zr powders by mechanical alloying, 361

ion beam induced amorphization in the intermetallic compounds NiTi and NiAl, 373

crystalline-amorphous transition of $NiZr_2$, NiZr and Ni_3Zr by electron irradiation, 401

atomistic simulation of radiation-induced amorphization of the ordered compound NiZr, 447

Niobium

morphological study of nitrides of NbTi (50:50, by weight) alloy, 53

crystal structure of triniobium triiron chromium hexasilicide Nb $_{\approx3}$ Fe $_{\approx3}$ Cr $_{\approx1}$ Si $_6$: an intergrowth of Zr $_4$ Co $_4$ Ge $_7$ and Nb $_2$ Cr $_4$ Si $_5$ blocks, 127

specific heats of $NbH_{0.87}$ and $NbH_{0.90}$ in the temperature range 80-430 K, 141

Nitrides

structural and intrinsic magnetic properties of $Sm_2Fe_{17}N_y$ (y = 2-8), 9

morphological study of nitrides of NbTi (50:50, by weight) alloy, 53

Nitrogen

diffusion patterns of nitrogen in the Fe₁₇Nd₂ compound as a function of temperature, 181

solid state amorphization transformations induced by mechanical alloying, 325

Nitrogenation

hydrogenation and nitrogenation of SmFe₂, 31

intrinsic and hard magnetic properties of rapidly quenched NdFe₁₀Mo₂N, ribbons, 87

Nuclear magnetic resonance

⁹¹Zr NMR in non-stoichiometric zirconium hydrides, ZrH_x (1.55 ≤ x ≤ 2), 47

Nucleation

effect of sharp concentration gradients on crystal nucleation in amorphous layers obtained by solid state reaction, 229

Oxidation

crystal structure of triniobium triiron chromium hexasilicide Nb_{≈3}Fe_{≈3}Cr_{≈1}Si₆: an intergrowth of Zr₄Co₄Ge₇ and Nb₂Cr₄Si₅ blocks, 127

das erste gemischtvalente Erdalkalimetall-Tetraoxodihydroxo-Osmat(VI, VIII): Sr₃(OsO₄(OH)₂)₂·H₂O, 163

Oxides

crystal structure and magnetic properties of $D_uY_2BaCuO_5$ (u = 0.00, 0.61, 1.31), 13

Oxygen

evidence for interstitial oxygen and possible role of reduction in Nd_{2-x}Ce_xCuO_{4+y}, L5

Phase diagrams

room temperature and 500 °C isothermal sections of the Ag-Cu-Dy (0-33.3 at.% Dy) phase diagram, 59 phase diagram of the Ce-Rh system, 63

Phase transformations

bulk amorphous Zn-Sb under normal and high pressures: phase transformations and relaxation phenomena, 279

Phase transitions

far from equilibrium phase transition induced by solid-state reaction in the Fe-Si system, 339

Phosphates

the role of cerium in potassium titanyl phosphate (KTiOPO₄), 139

Phosphorus

an X-ray diffraction study of the solid phase equilibria in some M-In-P systems (M≡Ni, Pd, Pt), 67

Physical properties

preparation, chemical reactions, and some physical properties of neptunium pentafluoride, 133

Potassium

electrical conduction of potassium yttrium fluoride thin films, L1

the role of cerium in potassium titanyl phosphate (KTi-OPO₄), 139

Radiation

radiation-induced crystalline-to-amorphous transition in intermetallic compounds of the Cu-Ti alloy system, 429 atomistic simulation of radiation-induced amorphization of the ordered compound NiZr, 447

Reactivity

the hydrolysis reaction of some cubic and tetragonal lanthanide dicarbide solid solutions, 109

Reduction

evidence for interstitial oxygen and possible role of reduction in Nd_{2-x}Ce_xCuO_{4+y}, L5

Rhodium

phase diagram of the Ce-Rh system, 63

Samarium

structural and intrinsic magnetic properties of $Sm_2Fe_{17}N_y$ (v = 2-8), 9

hydrogenation and nitrogenation of SmFe₂, 31 hydrogenation of Sm₂Fe₁₇, 113

Semiconductors

diffusional aspects of the solid state amorphization reaction, 199

Silicon

far from equilibrium phase transition induced by solid-state reaction in the Fe-Si system, 339

in situ studies of amorphization of the Ge-Al and Si-Al systems induced by 1 MeV electron irradiation, 389

Silver

room temperature and 500 °C isothermal sections of the Ag-Cu-Dy (0-33.3 at.% Dy) phase diagram, 59 Single crystals

InTaO₄ und GaTaO₄ mit geordneter und ungeordneter Metallverteilung, 101

crystal structure of triniobium triiron chromium hexasilicide Nb_{≈3}Fe_{≈3}Cr_{≈1}Si₆: an intergrowth of Zr₄Co₄Ge₇ and Nb₂Cr₄Si₅ blocks, 127

das erste gemischtvalente Erdalkalimetall-Tetraoxodihydroxo-Osmat(VI, VIII): Sr₃(OsO₄(OH)₂)₂·H₂O, 163 Sintering

nanophase processing of amorphous alloys, 245 Stability

intrinsic response of crystals to pure dilatation, 407 Steel

das erste gemischtvalente Erdalkalimetall-Tetraoxodihydroxo-Osmat(VI, VIII): Sr₃(OsO₄(OH)₂)₂·H₂O, 163 Stress

a molecular dynamics study of atomic level stress distributions in defective intermetallics, 417 Superconductivity

evidence for interstitial oxygen and possible role of reduction in Nd_{2-x}Ce_xCuO_{4+y}, L5

Tellurium

système ternaire thallium-étain-tellure. I. Triangulation du système ternaire thallium-étain-tellure et étude des coupes isoplèthes SnTe-TITe et Te-Tl₂SnTe₃, 147 système ternaire thallium-étain-tellure. II. Etude des

coupes isoplèthes SnTe-Tl₄SnTe₃ et Tl₄SnTe₃-Tl₅Te₃, 155

Temperature dependence

specific heats of NbH_{0.87} and NbH_{0.90} in the temperature range 80-430 K, 141

Thallium

système ternaire thallium-étain-tellure. I. Triangulation du système ternaire thallium-étain-tellure et étude des coupes isoplèthes SnTe-TITe et Te-Tl₂SnTe₃, 147

système ternaire thallium-étain-tellure. II. Etude des coupes isoplèthes SnTe-Tl₄SnTe₃ et Tl₄SnTe₃-Tl₅Te₃, 155

Thermodynamics

interaction of intermetallic compounds with hydrogen at pressures up to 250 MPa: the LaCo_{5-x}Mn_x-H₂ and CeNi₅-H₂ systems, 41

solid-state amorphizing transformations: thermodynamics and kinetics, 189

diffusional aspects of the solid state amorphization reaction, 199

effect of sharp concentration gradients on crystal nucleation in amorphous layers obtained by solid state reaction, 229

enthalpies of formation and crystallization of amorphous $Zr_{1-x}Al_x$ and $Zr_{1-x}Ni_x$ alloys: calculations compared with measurements, 235

solid state amorphization of intermetallic compounds by hydrogenation, 251

on the thermodynamics of the β-phase in Cr-Ti, 263 the structure of amorphous binary metal-metal alloys prepared by mechanical alloying, 295

on the influence of gaseous impurities in the amorphization reaction of some titanium-based alloys, 311 metastable melting phenomena and solid state amorphization (SSA) by mechanical alloying, 319

a molecular dynamics study of atomic level stress distributions in defective intermetallics, 417

the role of chemical disorder and volume expansion in crystal-to-amorphous transitions: simulation results for NiZr₂ and Cu₃Au, 439

Thin films

electrical conduction of potassium yttrium fluoride thin films, L1

amorphous alloys formed by solid state reaction, 221

système ternaire thallium-étain-tellure. I. Triangulation du système ternaire thallium-étain-tellure et étude des coupes isoplèthes SnTe-TlTe et Te-Tl₂SnTe₃, 147

système ternaire thallium-étain-tellure. II. Etude des coupes isoplèthes SnTe-Tl₄SnTe₃ et Tl₄SnTe₃-Tl₅Te₃, 155

Titanium

morphological study of nitrides of NbTi (50:50, by weight) alloy, 53

EXAFS study of chemical short-range order in amorphous Ni_xTi_{1-x} alloys, 77

on the thermodynamics of the β -phase in Cr-Ti, 263 the diffuse ω structure: its relationship to spontaneous vitrification in β -Ti-Cr, 273

on the influence of gaseous impurities in the amorphization reaction of some titanium-based alloys, 311

lattice destabilization and amorphization by mechanical alloying in the Ti-Al system, 331

ion beam induced amorphization in the intermetallic compounds NiTi and NiAl, 373

radiation-induced crystalline-to-amorphous transition in intermetallic compounds of the Cu-Ti alloy system, 429

Transition metal borides

electron-irradiation-induced crystalline-to-amorphous transition in transition metal borides, 381

Valence

alloying behaviour among U, Np, Pu and Am predicted with the Brewer valence bond model, 1

relation between Poisson's ratio and ionicity in simple binary cubic compounds, 119

das erste gemischtvalente Erdalkalimetall-Tetraoxodihydroxo-Osmat(VI, VIII): Sr₃(OsO₄(OH)₂)₂·H₂O, 163

X-ray diffraction

LiSr₂PdH₅, the first mixed alkali-alkaline earth transition metal hydride, L11

an X-ray diffraction study of the solid phase equilibria in some M-In-P systems (M≡Ni, Pd, Pt), 67

crystal structure of triniobium triiron chromium hexasilicide Nb_{~3}Fe_{~3}Cr_{~1}Si₆: an intergrowth of Zr₄Co₄Ge₇ and Nb₂Cr₄Si₅ blocks, 127

Yttrium fluoride

Electrical conduction of potassium yttrium fluoride thin films, L1

Zinc

The influence of the electron-to-atom ratio on the martensitic transformation enthalpy and entropy values in Cu-Zn-Al shape memory alloys, L9 elastic behaviour of Mn-Zn ferrites, 105

bulk amorphous Zn-Sb under normal and high pressures: phase transformations and relaxation phenomena, 279

Zirconium

- effect of sharp concentration gradients on crystal nucleation in amorphous layers obtained by solid state reaction, 229
- enthalpies of formation and crystallization of amorphous $Zr_{1-x}Al_x$ and $Zr_{1-x}Ni_x$ alloys: calculations compared with measurements, 235
- mechanical milling of ordered intermetallic compounds: the role of defects in amorphization, 287
- amorphization of mixed Ni and Zr powders by mechanical alloying, 361
- crystalline-amorphous transition of NiZr₂, NiZr and Ni₃Zr by electron irradiation, 401
- atomistic simulation of radiation-induced amorphization of the ordered compound NiZr, 447

Zirconium hydrides

⁹¹Zr NMR in non-stoichiometric zirconium hydrides, ZrH_x (1.55 $\leq x \leq 2$), 47