Subject Index of Volume 191

Adsorption

a theoretical molecular orbital approach to the adsorption and absorption of atomic H on Ni(111), 173

Al-substitution

effects of Al-substitution on hydriding reaction rates of LaNi_{5-x}Al_x, 5

Aluminium

- selective oxidation of Zr₂Al₃, 27
- standard enthalpies of formation of 4d aluminides by direct synthesis calorimetry, 111 crystal structure of CePd₂Al₃, L21

Anisotropy

temperature dependence of single-ion anisotropy and magnetostriction coefficients of rare-earth ferromagnets, in terms of the quantum theory, 67

Antiferromagnetism

magnetic phase diagram of the hexagonal DyAlGa compound, 139

Antimonv

description of the Ag-Sb-Se ternary system, 223

Barium

electronic properties of non-stoichiometric barium iridate, BaIrO₃₋₆, 313

Bismuth

- on the crystallochemistry of the binary BiSr₃O_x phase, 203 Borates
- tetracalcium gadolinium oxoborate (Ca4GdO(BO3)3) as a new host lattice for luminescent materials, 121

Boron

production of amorphous bulk materials of an Nd₁₅Fe₇₇B₈ magnetic alloy and their magnetic properties, 255 synthesis and sinterability of composite powder of the TiB₂-B₄C system, 191

Calcium

crystallochemical characterization of Bi8Sr8-xCa4+Cu9O33-y type solid solutions, 271

- Carbides
 - influence of interstitial C atoms on the Curie temperature and exchange interaction of $R_2Fe_{17}C_{\nu}$, 301
- Carbon

synthesis and sinterability of composite powder of the TiB₂-B₄C system, 191

- Carbon monoxide
 - simultaneous carburisation/oxidation of Nb in the presence of Co, 135

Carburisation

simultaneous carburisation/oxidation of Nb in the presence of Co, 135

Cerium

- H-induced transformation to an amorphous state in the Laves phases $Ce(Ru, M)_2$ (M = Fe, Co, Ni), 243 GdPt₂Sn-type crystal structure of CePd₂In, L9 crystal structure of CePd₂Al₃, L21
- kinetics and mechanism of Ce hydride formation, 91 Chalcogen spinels

neutron diffraction study on the structure of chalcogen spinels $Cu_{1+y}Cr_2X_4$ (X = Se, Te), 37

Chromium neutron diffraction study on the structure of chalcogen spinels $Cu_{1+\nu}Cr_2X_4$ (X = Se, Te), 37 on the magnetic phase diagram of dilute Cr-Au alloys, L17 Cobalt structure and magnetic properties of mechanically alloyed Sm_xCo_{1-x}, 197 Copper neutron diffraction study on the structure of chalcogen spinels $Cu_{1+\nu}Cr_2X_4$ (X = Se, Te), 37 ternary system Ag-Cu-Ho at 500 °C, 187 Yb₂O₃-CuO system and the crystal structure of Yb₂Cu₂ O₅, 297 Copper valency crystallochemical characterization of Bi₈Sr_{8-x}Ca_{4+x}Cu₉O_{33-y} type solid solutions, 271 Corrosion phase equilibrium studies in Na--Fe-O system, 9 Desorption theoretical molecular orbital approach to the adsorption and absorption of atomic H on Ni(111), 173 Electrical resistivity specific heat, magnetic susceptibility and electrical resistivity measurements on LaNiO₃, 287 Electronic properties electronic properties of non-stoichiometric barium iridate, BaIrO₃₋₈, 313 Electronic structure electronic structrue of ZrNiP₂ and related compounds with ZrFe₄Si₂-type structure, 53 Europium enhanced luminescence and energy transfer of Eu(III), Tb(III) chelates in micelle solution, 107 structure and luminescence characters of SrSiO₈:Eu³⁺Bi³⁺ synthesized under high pressure and high temperature, 1 Exchange interaction influence of interstitial C atoms on the Curie temperature and exchange interaction of $R_2Fe_{17}C_y$, 301 Ferromagnets temperature dependence of single-ion anisotropy and magnetostriction coefficients of rare-earth ferromagnets in terms of the quantum theory, 67 Gallium information on Zn₂GaV₃O₁₁, 251 Germanium calorimetric determination of the enthalpies of formation of the solid compounds of the Pt-Ge system, L15 stages of formation of a solid solution during the mechanical alloying of Si and Ge, 239

Gold

magnetic phase diagram of dilute Cr-Au alloys, L17 the Au-Sn phase diagram, 71

Hafnium

- construction of the Hf-Ni system up to 50 at.% Ni, 117 Heat capacity
- heat capacity of the Fe₂Zr intermetallic compound, L11 Holmium
 - H absorption characteristics of $Zr_{1-x}Ho_xCo_2$ system in the pressure range 0-40 bar, 101

the ternary system Ag-Cu-Ho at 500 °C, 187

Hydrides

- hydration of Y: determination of the enthalpies of formation of YbH_{1,8} and YbH_{2,5} phases, 21
- inversion of the magnetization near the compensation
- point in $TbFe_2H_x$ hydrides, 63 NMR line shape of ¹³⁹La in non-stoichiometric La hydrides at low temperatures, 207
- effect of vacuum annealing on the hydriding kinetics of Zr, 179
- effects of Al-substitution on hydriding reaction rates of $LaNi_{5-x}Al_x$, 5

Hydrogen

- a theoretical molecular orbital approach to the adsorption and absorption of atomic H on Ni(111), 173
- H absorption characteristics of $Zr_{1-x}Ho_xCo_2$ system in the pressure range 0-40 bar, 101
- H-induced transformation to an amorphous state in the Laves phases $Ce(Ru, M)_2$ (M = Fe, Co, Ni), 243 surface modification of V and its H absorption properties, 319
- kinetics and mechanism of Ce hydride formation, 91 Hydrogen storage
- effects of Al-substitution on hydriding reaction rates of LaNi_{5-r}Al_r, 5

Hydrogenation

hydrogenation and nitrogenation of SmFe₃, 279

Imide ions

neutron vibrational spectroscopy of imide ions, (NH²⁻) in bariumimide (BaNH), 131

GdPt₂Sn-type crystal structure of CePd₂In, L9

Indium Iridium

> electronic properties of non-stoichiometric barium iridate, BaIrO₃₋₀, 313

Iron

- ⁵⁷Fe Mössbauer effect study of the UFe_{10-x}Al_xSi₂ system, 213
- crystal structure of the new ternary stannides U2M2Sn with $M \cong Fe \text{ or } Rh, L1$

heat capacity of the Fe₂Zr intermetallic compound, L11 hydrogenation and nitrogenation of SmFe₃, 279

phase equilibrium studies in Na-Fe-O system, 9

production of amorphous bulk materials of an Nd₁₅Fe₇₇B₈ magnetic alloy and their magnetic properties, 255

study of the microstructure of a new hexagonal Sm₂Fe₁₇ phase with the Th₂Ni₁₇-type structure, 291

Kagomé nets

crystal structure of Ba₃Ln₄O₉ (Ln = Dy, Er, Y/Yb), 151 Kinetics

- H absorption characteristics of $Zr_{1-x}Ho_xCo_2$ system in the pressure range 0-40 bar, 101
- role of the heating rates up to the annealing temperature on the hysteretic properties of hard magnetic materials prepared from amorphous precursors, 127

kinetics and mechanism of Ce hydride formation, 91

Lanthanum

NMR line shape of ¹³⁹La in non-stoichiometric La hydrides at low temperatures, 207

specific heat, magnetic susceptibility and electrical resistivity measurements on LaNiO₃, 287

- Laves phase
- H-induced transformation to an amorphous state in the Laves phases $Ce(Ru, M)_2$ (M = Fe, Co, Ni), 243 Luminescence

enhanced luminescence and energy transfer of Eu(III),

- Tb(III) chelates in micelle solution, 107 tetracalcium gadolinium oxoborate (Ca4GdO(BO3)3) as a new host lattice for luminescent materials, 121
- structure and luminescence characters of SrSiO₈:Eu³⁺Bi³⁺ synthesized under high pressure and high temperature, 1

Magnesium

- structure refinement of AuMg₃, IrMg₃ and IrMg_{2.8}, L5 Magnetic properties
 - ⁵⁷Fe Mössbauer effect study of the UFe_{10-r}Al_rSi₂ system, 213
 - magnetic structures of PrMn₂Si₂ and NdMn₂Si₂ from neutron diffraction studies, 263
 - modulation of spin reorientation transitions in the series $R(Fe, M)_{12}X_v$ ($R \equiv Y$, Nd, Ho; $M \equiv Mo$, Ti; $X \equiv N$, H), 233
 - magnetic phase diagram of dilute Cr-Au alloys, L17
 - production of amorphous bulk materials of an $Nd_{15}Fe_{77}B_8$ magnetic alloy and their magnetic properties, 255
 - structure and magnetic properties of mechanically alloyed Sm_xCo_{1-x}, 197
- Magnetic susceptibility

specific heat, magnetic susceptibility and electrical resistivity measurements on LaNiO₃, 287

- Magnetization
 - inversion of the magnetization near the compensation point in TbFe₂H, hydrides, 63
 - magnetic phase diagram of NdRh2-xRuxSi2 in high magnetic field, 159
 - questions about the existence of the spin reorientations in HoFe_{10-x}Co_xMo₂, 79
 - role of the heating rates up to the annealing temperature on the hysteretic properties of hard magnetic materials prepared from amorphous precursors, 127

Magnetostriction

structure and magnetostriction of Dy_{0.9-x}Pr_xTb_{0.1}Fe₂ pseudobinary compounds, 169

temperature dependence of single-ion anisotropy and magnetostriction coefficients of rare-earth ferromagnets in terms of the quantum theory, 67

Mechanical alloying

- surface modification of V and its H absorption properties, 319
- stages of formation of a solid solution during the mechanical alloying of Si and Ge, 239
- Metamagnetism
 - magnetic phase diagram of the hexagonal DyAlGa compound, 139
- Molybdenum

computer assessment of the Mo-Pd phase diagram, 83

Neodymium

production of amorphous bulk materials of an Nd₁₅Fe₇₇B₈ magnetic alloy and their magnetic properties, 255

Neutron diffraction magnetic phase diagram of the hexagonal DyAlGa compound, 139 magnetic structures of PrMn₂Si₂ and NdMn₂Si₂ from neutron diffraction studies, 263 Neutron vibrational spectroscopy neutron vibrational spectroscopy of imide ions, (NH²⁻) in bariumimide (BaNH), 131 Nickel theoretical molecular orbital approach to the adsorption and absorption of atomic H on Ni(111), 173 construction of the Hf-Ni system up to 50 at.% Ni, 117 specific heat, magnetic susceptibility and electrical resistivity measurements on LaNiO₃, 287 Niobium simultaneous carburisation/oxidation of Nb in the presence of Co, 135 Nitrides synthesis and structure of a caesium niobium(V) nitride, CsNbN₂, 277 Nitrogen synthesis and sinterability of composite powder of the TiB₂-B₄C system, 191 Nitrogenation hydrogenation and nitrogenation of SmFe₃, 279 Nuclear magnetic resonance NMR line shape of ¹³⁹La in non-stoichiometric La hydrides at low temperature, 207 Oxidation crystallochemical characterization of Bi₈Sr_{8-x}Ca_{4+x}Cu₉O_{33-y} type solid solutions, 271 standard enthalpies of formation of 4d aluminides by direct synthesis calorimetry, 111 simultaneous carburisation/oxidation of Nb in the presence of Co, 135 Oxides multi-layered perovskite with ordered metal distribution: Ba₆Al₂Rh₂Ho₂O₁₅, 305 phase equilibrium studies in Na-Fe-O system, 9 selective oxidation of Zr₂Al₃, 27 tetracalcium gadolinium oxoborate (Ca₄GdO(BO₃)₃) as a new host lattice for luminescent materials, 121 Oxygen crystallochemistry of the binary BiSr₃O_x phase, 203 Palladium computer assessment of Ru-Rh and Ru-Pd systems, 31 computer assessment of the Mo-Pd phase diagram, 83 computer assessment of the Pd-Rh system, 165 GdPt₂Sn-type crystal structure of CePd₂In, L9 crystal structure of CePd₂Al₃, L21 Phase diagrams computer assessment of the Mo-Pd phase diagram, 83 computer assessment of the Pd-Rh system, 165 magnetic phase diagram of NdRh_{2-x}Ru_xSi₂ in high magnetic field, 159 magnetic phase diagram of the hexagonal DyAlGa compound, 139 construction of the Hf-Ni system up to 50 at.% Ni, 117 phase relations in the SrO-SiO₂-ZrO₂ system, 87 standard enthalpies of formation of 4d aluminides by direct synthesis calorimetry, 111 Au-Sn phase diagram, 71 Yb₂O₃-CuO system and the crystal structure of Yb₂Cu₂O₅, 297

Phosphides electronic structure of ZrNiP₂ and related compounds with ZrFe₄Si₂-type structure, 53 Platinum calorimetric determination of the enthalpies of formation of the solid compounds of the Pt-Ge system, L15 structure refinement of AuMg₃, IrMg₃ and IrMg_{2.8}, L5 Pseudobinary compounds structure and magnetostriction of Dy_{0.9-x}Pr_xTb_{0.1}Fe₂ pseudobinary compounds, 169 Rare earths temperature dependence of single-ion anisotropy and magnetostriction coefficients of rare-earth ferromagnets in terms of the quantum theory, 67 structure and luminescence characters of SrSiO₈:Eu³⁺Bi³⁺ synthesized under high pressure and high temperature, 1 Rhodium computer assessment of Ru-Rn and Ru-Pd systems, 31 computer assessment of the Pd-Rh system, 165 crystal structure of the new ternary stannides U₂M₂Sn with $M \equiv Fe \text{ or } Rh, L1$ Ruthenium computer assessment of Ru-Rh and Ru-Pd systems, 31 potentiometric determination of the thermodynamic stability of SrO-RuO₂ system, 219 Samarium hydrogenation and nitrogenation of SmFe₃, 279 structure and magnetic properties of mechanically alloyed Sm_xCo_{1-x}, 197 study of the microstructure of a new hexagonal Sm₂Fe₁₂ phase with the Th₂Ni₁₇-type structure, 291 Scandium standard enthalpies of formation of La alloys, La+Me $(Me \equiv Ru, Rh, Pd, Os, Ir, Pt)$, by high-temperature calorimetry, 155 Selenium description of the Ag-Sb-Se ternary system, 223 Silicides electronic structure of ZrNiP2 and related compounds with ZrFe₄Si₂-type structure, 53 Silicon phase relations in the SrO-SiO₂-ZrO₂ system, 87 stages of formation of a solid solution during the mechanical alloying of Si and Ge, 239 Silver description of the Ag-Sb-Se ternary system, 223 the ternary system Ag-Cu-Ho at 500 °C, 187 Single crystals multi-layered perovskite with ordered metal distribution: Ba₆Al₂Rh₂Ho₂O₁₅, 305 synthesis and structure of a sodium niobium(V) nitride, NaNbN₂, 51 X-ray diffraction analysis of Ti-diffused single-crystal LiNbO₃, 15 crystal structure of $Ba_3Ln_4O_9$, (Ln = Dy, Er, Y/Yb), 151 Sodium phase equilibrium studies in Na-Fe-O system, 9 Sodium niobium nitride synthesis and structure of a sodium niobium(V) nitride, NaNbN₂, 51 Spin reorientation modulation of spin reorientation transitions in the series $R(Fe, M)_{12}X_y$ ($R \equiv Y$, Nd, Ho; $M \equiv Mo$, Ti; $X \equiv N$, H), 233

Spin reorientations questions about the existence of the spin reorientations in HoFe_{10-x}Co_xMo₂, 79 Steel phase equilibrium studies in Na-Fe-O system, 9 Strontium crystallochemistry of the binary BiSr₃O_x phase, 203 phase relations in the SrO-SiO₂-ZrO₂ system, 87 potentiometric determination of the thermodynamic stability of SrO-RuO₂ system, 219 Synchrotron radiation high pressure XRD study of UC₂ using synchrotron radiation, 309 Terbium enhanced luminescence and energy transfer of Eu(III), Tb(III) chelates in micelle solution, 107 Ternary stannides crystal structure of the new ternary stannides U2M2Sn with $M \equiv Fe \text{ or } Rh, L1$ Thermodynamics computer assessment of the Pd-Rh system, 165 potentiometric determination of the thermodynamic stability of SrO-RuO₂ system, 219 standard enthalpies of formation of Sc alloys, Sc+Me (Me = Fe, Co, Ni, Ru, Rh, Pd, Ir, Pt), by high temperature calorimetry, 145 standard enthalpies of formation of La alloys, La+Me (Me = Ru, Rh, Pd, Os, Ir, Pt), by high-temperature calorimetry, 155 synthesis and structure of a caesium niobium(V) nitride, CsNbN₂, 277 thermodynamic calculations in quaternary transition metal systems, 43 the Au-Sn phase diagram, 71 Titanium standard enthalpies of formation of Sc alloys,

Sc + Me ($Me \equiv Fe$, Co, Ni, Ru, Rh, Pd, Ir, Pt), by high temperature calorimetry, 145

XRD analysis of Ti-diffused single-crystal LiNbO₃, 15

Transition metals

Tin

thermodynamic calculations in quaternary transition metal systems, 43

Transmission electron microscopy study of the microstructure of a new hexagonal Sm₂Fe₁₇ phase with the Th₂Ni₁₇-type structure, 291 Uranium ⁵⁷Fe Mössbauer effect study of the UFe_{10-x}Al_xSi₂ system, 213 Vacuum annealing effect of vacuum annealing on the hydriding kinetics of Zr, 179 Vanadium surface modification of V and its H absorption properties, 319 X-ray diffraction high pressure XRD study of UC₂ using synchrotron radiation, 309 XRD analysis of Ti-diffused single-crystal LiNbO₃, 15 Ytterbium hydration of Yb: determination of the enthalpies of formation of YbH1.8 and YbH2.5 phases, 21 the Yb₂O₃-CuO system and the crystal structure of Yb₂Cu₂O₅, 297 Yttrium standard enthalpies of formation of Sc alloys, Sc+Me (Me≡Fe, Co, Ni, Ru, Rh, Pd, Ir, Pt), by high temperature calorimetry, 145 standard enthalpies of formation of La alloys, La+Me $(Me \equiv Ru, Rh, Pd, Os, Ir, Pt)$, by high-temperature calorimetry, 155 Zinc information on Zn₂GaV₃O₁₁, 251 Zirconium

electronic structure of ZrNiP2 and related compounds with ZrFe₄Si₂-type structure, 53

heat capacity of the Fe₂Zr intermetallic compound, L11

H absorption characteristics of $Zr_{1-x}Ho_xCo_2$ system in the pressure range 0-40 bar, 101

selective oxidation of Zr₂Al₃, 27

effect of vacuum annealing on the hydriding kinetics of Zr, 179

332