



Subject index

Actinides (*excludes Plutonium, Thorium and Uranium*)

- Semi-empirical models of actinide alloying, J.K. Gibson, R.G. Haire and T. Ogawa 273 (1999) 139

Adsorption

- Evaluation and mitigation of tritium memory in detritiation dryers, C. Malara, I. Ricaptio, R.A.H. Edwards and F. Toci 273 (1999) 203

Aluminum, Aluminum Alloys and Compounds

- Investigation on the suitability of plasma sprayed Fe–Cr–Al coatings as tritium permeation barrier, C. Fazio, K. Stein-Fechner, E. Serra, H. Glasbrenner and G. Benamati 273 (1999) 233

Amorphization and Amorphous Materials

- Neutron irradiation induced amorphization of silicon carbide, L.L. Snead and J.C. Hay 273 (1999) 213

Analytical Instruments and Methods

- Amplitude dependent damping study in austenitic stainless steels 316H and 304H. Its relation with the microstructure, G.I. Zelada-Lambri, O.A. Lambri and G.H. Rubiolo 273 (1999) 248
- Determination of the solidus temperatures of Zircaloy-4/oxygen alloys, P.J. Hayward and I.M. George 273 (1999) 294
- Proton irradiation effects in Zr–1.0 Nb–1.0 Sn–0.1 Fe probed by positron annihilation, P. Mukherjee, P.M.G. Nambissan, P. Sen, P. Barat and S.K. Bandyopadhyay 273 (1999) 338

Beryllium, Beryllium Alloys and Compounds

- Hydrogen isotope retention in beryllium for tokamak plasma-facing applications, R.A. Anderl, R.A. Causey, J.W. Davis, R.P. Doerner, G. Federici, A.A. Haasz, G.R. Longhurst, W.R. Wampler and K.L. Wilson 273 (1999) 1

- Depth distribution of deuterium atoms and molecules in beryllium oxide implanted with deuterium ions, V.Kh. Alimov and V.N. Chernikov 273 (1999) 277

Breeding Materials

- Modeling and analysis of time-dependent tritium transport in lithium oxide, A. Badawi, A.R. Raffray and M.A. Abdou 273 (1999) 79
- Chemical interactions in the EXOTIC-7 experiment, H. Kleykamp 273 (1999) 171

Carbon

- Intrinsic hydrogen transport constants in the CFC matrix and fibres derived from isovolumetric desorption experiments, L.A. Sedano, A. Perujo and C.H. Wu 273 (1999) 285

Cavities (*includes Voids, Holes*)

- Theory of gas bubble nucleation in supersaturated solution of vacancies, interstitials and gas atoms, A.E. Volkov and A.I. Ryazanov 273 (1999) 155

Chemical Reactions (*includes Electrochemical and Thermochemical Reactions*)

- Metal and oxygen mobilities during Zircaloy-4 oxidation at high temperature, A. Grandjean and Y. Serruys 273 (1999) 111
- Long-term oxidation characteristics of oxygen-added modified Zircaloy-4 in 360°C water, H.S. Hong, S.J. Kim and K.S. Lee 273 (1999) 177
- Diffusion model for the oxidation of Zircaloy-4 at 400°C in steam. The influence of metallurgical structure (precipitates and grain size), E.A. Garcia and G. Béranger 273 (1999) 221

Cladding Materials

- Proton irradiation effects in Zr–1.0 Nb–1.0 Sn–0.1 Fe probed by positron annihilation, P. Mukherjee, P.M.G. Nambissan, P. Sen, P. Barat and S.K. Bandyopadhyay 273 (1999) 338

Coatings and Coated Particles

Investigation on the suitability of plasma sprayed Fe–Cr–Al coatings as tritium permeation barrier, C. Fazio, K. Stein-Fechner, E. Serra, H. Glasbrenner and G. Benamati 273 (1999) 233

Compatibility and Corrosion (includes Stress Corrosion Cracking)

Reactions of hydrogen with V–Cr–Ti alloys, J.R. DiStefano, J.H. De Van, D.H. Röhrig and L.D. Chitwood 273 (1999) 102

Chemical interactions in the EXOTIC-7 experiment, H. Kleykamp 273 (1999) 171

Copper, Copper Alloys and Compounds

TEM and SEM studies of radiation blistering in helium-implanted copper, P.B. Johnson, R.W. Thomson and K. Reader 273 (1999) 117

Creep and Stress Relaxation

Creep deformation and fracture behaviour of a nitrogen-bearing type 316 stainless steel weld metal, G. Sasikala, M.D. Mathew, K. Bhanu Sankara Rao and S.L. Mannan 273 (1999) 257

Crystallographic Properties

Native vacancy migrations in zircon, R.E. Williford, W.J. Weber, R. Devanathan and A.N. Cormack 273 (1999) 164

Defects and Defect Structures (excludes by Irradiation)

Native vacancy migrations in zircon, R.E. Williford, W.J. Weber, R. Devanathan and A.N. Cormack 273 (1999) 164

Characterization of Zircaloy-4 oxide layers by impedance spectroscopy, P. Barberis and A. Frichet 273 (1999) 182

Diffusion

Modeling and analysis of time-dependent tritium transport in lithium oxide, A. Badawi, A.R. Raffray and M.A. Abdou 273 (1999) 79

Metal and oxygen mobilities during Zircaloy-4 oxidation at high temperature, A. Grandjean and Y. Serruys 273 (1999) 111

Diffusion model for the oxidation of Zircaloy-4 at 400°C in steam. The influence of metallurgical structure (precipitates and grain size), E.A. Garcia and G. Béranger 273 (1999) 221

Dislocations

Amplitude dependent damping study in austenitic stainless steels 316H and 304H. Its relation with the

microstructure, G.I. Zelada-Lambri, O.A. Lambri and G.H. Rubiolo 273 (1999) 248

Electron Microscopy

Amplitude dependent damping study in austenitic stainless steels 316H and 304H. Its relation with the microstructure, G.I. Zelada-Lambri, O.A. Lambri and G.H. Rubiolo 273 (1999) 248

Depth profiles of damage accumulation in UO₂ and (U,Gd)O₂ pellets irradiated with 100 MeV iodine ions, K. Nogita, K. Hayashi, K. Une and K. Fukuda 273 (1999) 302

Embrittlement

Reactions of hydrogen with V–Cr–Ti alloys, J.R. DiStefano, J.H. De Van, D.H. Röhrig and L.D. Chitwood 273 (1999) 102

Fatigue

Fatigue failure analysis of V–4Ti–4Cr alloy, H. Aglan, Y.X. Gan, B. Chin and M. Grossbeck 273 (1999) 192

First Wall Materials

Hydrogen isotope retention in beryllium for tokamak plasma-facing applications, R.A. Anderl, R.A. Causey, J.W. Davis, R.P. Doerner, G. Federici, A.A. Haasz, G.R. Longhurst, W.R. Wampler and K.L. Wilson 273 (1999) 1

Fission Products

Behavior of metallic fission products in uranium–plutonium mixed oxide fuel, I. Sato, H. Furuya, T. Arima, K. Idemitsu and K. Yamamoto 273 (1999) 239

Fracture and Fracture Toughness

The effect of tantalum on the mechanical properties of a 9Cr–2W–0.25V–0.07Ta–0.1C steel, R.L. Klueh, D.J. Alexander and M. Rieth 273 (1999) 146

Creep deformation and fracture behaviour of a nitrogen-bearing type 316 stainless steel weld metal, G. Sasikala, M.D. Mathew, K. Bhanu Sankara Rao and S.L. Mannan 273 (1999) 257

Influence of prior thermal ageing on tensile deformation and fracture behaviour of forged thick section 9Cr–1Mo ferritic steel, B.K. Choudhary, K. Bhanu Sankara Rao, S.L. Mannan and B.P. Kashyap 273 (1999) 315

Fuels and Fuel Elements

- Immobilization of spent nuclear fuel in iron phosphate glass, M.G. Mesko and D.E. Day 273 (1999) 27
- Behavior of metallic fission products in uranium-plutonium mixed oxide fuel, I. Sato, H. Furuya, T. Arima, K. Idemitsu and K. Yamamoto 273 (1999) 239

Fusion Reactors

- Fatigue failure analysis of V-4Ti-4Cr alloy, H. Aglan, Y.X. Gan, B. Chin and M. Grossbeck 273 (1999) 192

Gamma Irradiation

- Measurements of the radiation resistant fused quartz radio-luminescence spectral intensity under irradiation in the pulse nuclear reactor, A. Gorshkov, D. Orlinki, V. Sannikov, K. Vukolov, S. Goncharov, Yu. Sadovnikov and A. Kirillov 273 (1999) 271

Helium

- TEM and SEM studies of radiation blistering in helium-implanted copper, P.B. Johnson, R.W. Thomson and K. Reader 273 (1999) 117
- Theory of gas bubble nucleation in supersaturated solution of vacancies, interstitials and gas atoms, A.E. Volkov and A.I. Ryazanov 273 (1999) 155

Hydrogen and Hydrides (includes Deuterium and Deuterides)

- Hydrogen isotope retention in beryllium for tokamak plasma-facing applications, R.A. Anderl, R.A. Causey, J.W. Davis, R.P. Doerner, G. Federici, A.A. Haasz, G.R. Longhurst, W.R. Wampler and K.L. Wilson 273 (1999) 1
- The effect of texture variation on delayed hydride cracking behavior of Zr-2.5%Nb plate, S.S. Kim, S.C. Kwon, and Y.S. Kim 273 (1999) 52
- Permeation of multi-component hydrogen isotopes through austenitic stainless steels, T. Shiraishi, M. Nishikawa, T. Yamaguchi and K. Kenmotsu 273 (1999) 60
- Hydrogen isotope permeation through and inventory in the first wall of the water cooled Pb-17Li blanket for DEMO, O.V. Ogorodnikova, M.A. Fütterer, E. Serra, G. Benamati, J.-F. Salavy and G. Aiello 273 (1999) 66
- Characterization of hydrogen permeation through recycled cast iron for subsurface disposal, A.M. Brass and F. Barbier 273 (1999) 265

- Depth distribution of deuterium atoms and molecules in beryllium oxide implanted with deuterium ions, V.Kh. Alimov and V.N. Chernikov 273 (1999) 277
- Intrinsic hydrogen transport constants in the CFC matrix and fibres derived from isovolumetric desorption experiments, L.A. Sedano, A. Perujo and C.H. Wu 273 (1999) 285

Ion Irradiation

- Depth distribution of deuterium atoms and molecules in beryllium oxide implanted with deuterium ions, V.Kh. Alimov and V.N. Chernikov 273 (1999) 277
- Depth profiles of damage accumulation in UO₂ and (U,Gd)O₂ pellets irradiated with 100 MeV iodine ions, K. Nogita, K. Hayashi, K. Une and K. Fukuda 273 (1999) 302
- Proton irradiation effects in Zr-1.0 Nb-1.0 Sn-0.1 Fe probed by positron annihilation, P. Mukherjee, P.M.G. Nambissan, P. Sen, P. Barat and S.K. Bandyopadhyay 273 (1999) 338

Iron, Iron alloys (excludes Steels) and Compounds

- Characterization of hydrogen permeation through recycled cast iron for subsurface disposal, A.M. Brass and F. Barbier 273 (1999) 265

Low Activation and Low Activation Materials (includes Reduced Activation)

- The effect of tantalum on the mechanical properties of a 9Cr-2W-0.25V-0.07Ta-0.1C steel, R.L. Klueh, D.J. Alexander and M. Rieth 273 (1999) 146

Mathematical and Computational Methods

- Modeling and analysis of time-dependent tritium transport in lithium oxide, A. Badawi, A.R. Raffray and M.A. Abdou 273 (1999) 79
- Native vacancy migrations in zircon, R.E. Williford, W.J. Weber, R. Devanathan and A.N. Cormack 273 (1999) 164
- Comprehensive physical models and simulation package for plasma/material interactions during plasma instabilities, A. Hassanein and I. Konkashbaev 273 (1999) 326

Mechanical Properties (not listed elsewhere)

- Effect of strain rate and test temperature on superplasticity of a Zr-2.5 wt% Nb alloy, S.V. Shukla, C. Chandrashekarayya, R.N. Singh, R. Fotedar, R. Kishore, T.K. Sinha and B.P. Kashyap 273 (1999) 130

- Influence of prior thermal ageing on tensile deformation and fracture behaviour of forged thick section 9Cr–1Mo ferritic steel, B.K. Choudhary, K. Bhanu Sankara Rao, S.L. Mannan and B.P. Kashyap 273 (1999) 315
- Microstructure and Texture** (*excludes by Irradiation*)
- The effect of texture variation on delayed hydride cracking behavior of Zr–2.5%Nb plate, S.S. Kim, S.C. Kwon and Y.S. Kim 273 (1999) 52
- Reactions of hydrogen with V–Cr–Ti alloys, J.R. DiStefano, J.H. De Van, D.H. Röhrig and L.D. Chitwood 273 (1999) 102
- Fatigue failure analysis of V–4Ti–4Cr alloy, H. Aglan, Y.X. Gan, B. Chin and M. Grossbeck 273 (1999) 192
- Modification of microstructure and the alligating damage in a modified 9Cr–1Mo steel, R. Kishore and T.K. Sinha 273 (1999) 334
- Neutron Irradiation**
- Relationship between hardening and damage structure in austenitic stainless steel 316LN irradiated at low temperature in the HFIR, N. Hashimoto, E. Wakai and J.P. Robertson 273 (1999) 95
- The effect of tantalum on the mechanical properties of a 9Cr–2W–0.25V–0.07Ta–0.1C steel, R.L. Klueh, D.J. Alexander and M. Rieth 273 (1999) 146
- Chemical interactions in the EXOTIC-7 experiment, H. Kleykamp 273 (1999) 171
- Neutron irradiation induced amorphization of silicon carbide, L.L. Snead and J.C. Hay 273 (1999) 213
- Irradiation swelling of explosively shocked materials, V.M. Kosenkov, A.V. Kolesnikov and S.A. Vorobjev 273 (1999) 228
- Measurements of the radiation resistant fused quartz radio-luminescence spectral intensity under irradiation in the pulse nuclear reactor, A. Gorshkov, D. Orlinski, V. Sannikov, K. Vukolov, S. Goncharov, Yu. Sadovnikov and A. Kirillov 273 (1999) 271
- Permeation**
- Permeation of multi-component hydrogen isotopes through austenitic stainless steels, T. Shirashi, M. Nishikawa, T. Yamaguchi and K. Kenmotsu 273 (1999) 60
- Hydrogen isotope permeation through and inventory in the first wall of the water cooled Pb–17Li blanket for DEMO, O.V. Ogorodnikova, M.A. Fütterer, E. Serra, G. Benamati, J.-F. Salavy and G. Aiello 273 (1999) 66
- Investigation on the suitability of plasma sprayed Fe–Cr–Al coatings as tritium permeation barrier, C. Fazio, K. Stein-Fechner, E. Serra, H. Glasbrenner and G. Benamati 273 (1999) 233
- Characterization of hydrogen permeation through recycled cast iron for subsurface disposal, A.M. Brass and F. Barbier 273 (1999) 265
- Phase Equilibria** (*includes Constitution, Phase Stability, Phase Instability*)
- Semi-empirical models of actinide alloying, J.K. Gibson, R.G. Haire and T. Ogawa 273 (1999) 139
- Phase Transformation** (*includes Evaporation, Sublimation*)
- Irradiation swelling of explosively shocked materials, V.M. Kosenkov, A.V. Kolesnikov and S.A. Vorobjev 273 (1999) 228
- Physical Properties** (*not listed elsewhere*)
- Measurements of the radiation resistant fused quartz radio-luminescence spectral intensity under irradiation in the pulse nuclear reactor, A. Gorshkov, D. Orlinski, V. Sannikov, K. Vukolov, S. Goncharov, Yu. Sadovnikov and A. Kirillov 273 (1999) 271
- Determination of the solidus temperatures of Zircaloy-4/oxygen alloys, P.J. Hayward and I.M. George 273 (1999) 294
- Depth profiles of damage accumulation in UO₂ and (U,Gd)O₂ pellets irradiated with 100 MeV iodine ions, K. Nogita, K. Hayashi, K. Une and K. Fukuda 273 (1999) 302
- Plasma-Materials Interaction**
- Hydrogen isotope retention in beryllium for tokamak plasma-facing applications, R.A. Anderl, R.A. Causey, J.W. Davis, R.P. Doerner, G. Federici, A.A. Haasz, G.R. Longhurst, W.R. Wampler and K.L. Wilson 273 (1999) 1
- Comprehensive physical models and simulation package for plasma/material interactions during plasma instabilities, A. Hassanein and I. Konkashbaev 273 (1999) 326

Plutonium, Plutonium Alloys and Compounds

- Behavior of metallic fission products in uranium-plutonium mixed oxide fuel, I. Sato, H. Furuya, T. Arima, K. Idemitsu and K. Yamamoto 273 (1999) 239
- Application of a linear free energy relationship to crystalline solids of MO_2 and $\text{M}(\text{OH})_4$, H. Xu, Y. Wang and L.L. Barton 273 (1999) 343

Radiation Effects: Extended Defects, Microstructures

- Relationship between hardening and damage structure in austenitic stainless steel 316LN irradiated at low temperature in the HFIR, N. Hashimoto, E. Wakai and J.P. Robertson 273 (1999) 95

Radiation Effects: Mechanical Properties

- Relationship between hardening and damage structure in austenitic stainless steel 316LN irradiated at low temperature in the HFIR, N. Hashimoto, E. Wakai and J.P. Robertson 273 (1999) 95
- Neutron irradiation induced amorphization of silicon carbide, L.L. Snead and J.C. Hay 273 (1999) 213

Radiation Effects: Physical Properties

- Neutron irradiation induced amorphization of silicon carbide, L.L. Snead and J.C. Hay 273 (1999) 213
- Irradiation swelling of explosively shocked materials, V.M. Kosenkov, A.V. Kolesnikov and S.A. Vorobjev 273 (1999) 228

Rare Earths

- Vaporization study on lanthanum-neodymium alloys by mass-spectrometry, Y. Shoji and T. Matsui 273 (1999) 310

Silicon and Silicon Compounds

- Neutron irradiation induced amorphization of silicon carbide, L.L. Snead and J.C. Hay 273 (1999) 213
- Measurements of the radiation resistant fused quartz radio-luminescence spectral intensity under irradiation in the pulse nuclear reactor, A. Gorshkov, D. Orlinki, V. Sannikov, K. Vukolov, S. Goncharov, Yu. Sadovnikov and A. Kirillov 273 (1999) 271

Steels, Austenitic

- Kohler solution model for prediction of activities of constituent metals in austenitic steels and other iso-structural alloys and a comparison

- with experimental data, H.P. Nawada and O.M. Sreedharan 273 (1999) 37
- Permeation of multi-component hydrogen isotopes through austenitic stainless steels, T. Shiraishi, M. Nishikawa, T. Yamaguchi and K. Kenmotsu 273 (1999) 60
- Relationship between hardening and damage structure in austenitic stainless steel 316LN irradiated at low temperature in the HFIR, N. Hashimoto, E. Wakai and J.P. Robertson 273 (1999) 95
- Chemical interactions in the EXOTIC-7 experiment, H. Kleykamp 273 (1999) 171
- Amplitude dependent damping study in austenitic stainless steels 316H and 304H. Its relation with the microstructure, G.I. Zelada-Lambri, O.A. Lambri and G.H. Rubiolo 273 (1999) 248
- Creep deformation and fracture behaviour of a nitrogen-bearing type 316 stainless steel weld metal, G. Sasikala, M.D. Mathew, K. Bhanu Sankara Rao and S.L. Mannan 273 (1999) 257

Steels, Ferritic

- Hydrogen isotope permeation through and inventory in the first wall of the water cooled Pb-17Li blanket for DEMO, O.V. Ogorodnikova, M.A. Fütterer, E. Serra, G. Benamati, J.-F. Salavy and G. Aiello 273 (1999) 66
- The effect of tantalum on the mechanical properties of a 9Cr-2W-0.25V-0.07Ta-0.1C steel, R.L. Klueh, D.J. Alexander and M. Rieth 273 (1999) 146
- Influence of prior thermal ageing on tensile deformation and fracture behaviour of forged thick section 9Cr-1Mo ferritic steel, B.K. Choudhary, K. Bhanu Sankara Rao, S.L. Mannan and B.P. Kashyap 273 (1999) 315
- Modification of microstructure and the alligating damage in a modified 9Cr-1Mo steel, R. Kishore and T.K. Sinha 273 (1999) 334

Surface Effects

- TEM and SEM studies of radiation blistering in helium-implanted copper, P.B. Johnson, R.W. Thomson and K. Reader 273 (1999) 117
- Characterization of Zircaloy-4 oxide layers by impedance spectroscopy, P. Barberis and A. Frichet 273 (1999) 182
- Comprehensive physical models and simulation package for plasma/

- material interactions during plasma instabilities, A. Hassanein and I. Konkashbaev 273 (1999) 326
- Swelling**
- Theory of gas bubble nucleation in supersaturated solution of vacancies, interstitials and gas atoms, A.E. Volkov and A.I. Ryazanov 273 (1999) 155
- Irradiation swelling of explosively shocked materials, V.M. Kosenkov, A.V. Kolesnikov and S.A. Vorobjev 273 (1999) 228
- Theory and Modelling**
- Modeling and analysis of time-dependent tritium transport in lithium oxide, A. Badawi, A.R. Raffray and M.A. Abdou 273 (1999) 79
- Theory of gas bubble nucleation in supersaturated solution of vacancies, interstitials and gas atoms, A.E. Volkov and A.I. Ryazanov 273 (1999) 155
- Intrinsic hydrogen transport constants in the CFC matrix and fibres derived from isovolumetric desorption experiments, L.A. Sedano, A. Perujo and C.H. Wu 273 (1999) 285
- Application of a linear free energy relationship to crystalline solids of MO_2 and $\text{M}(\text{OH})_4$, H. Xu, Y. Wang and L.L. Barton 273 (1999) 343
- Thermodynamic Properties**
- Kohler solution model for prediction of activities of constituent metals in austenitic steels and other isostructural alloys and a comparison with experimental data, H.P. Nawada and O.M. Sreedharan 273 (1999) 37
- Semi-empirical models of actinide alloying, J.K. Gibson, R.G. Haire and T. Ogawa 273 (1999) 139
- Determination of the solidus temperatures of Zircaloy-4/oxygen alloys, P.J. Hayward and I.M. George 273 (1999) 294
- Vaporization study on lanthanum-neodymium alloys by mass-spectrometry, Y. Shoji and T. Matsui 273 (1999) 310
- Application of a linear free energy relationship to crystalline solids of MO_2 and $\text{M}(\text{OH})_4$, H. Xu, Y. Wang and L.L. Barton 273 (1999) 343
- Thermomechanical Treatment**
- Amplitude dependent damping study in austenitic stainless steels 316H and 304H. Its relation with the microstructure, G.I. Zelada-Lambri, O.A. Lambri and G.H. Rubiolo 273 (1999) 248
- Influence of prior thermal ageing on tensile deformation and fracture behaviour of forged thick section 9Cr-1Mo ferritic steel, B.K. Choudhary, K. Bhanu Sankara Rao, S.L. Mannan and B.P. Kashyap 273 (1999) 315
- Modification of microstructure and the alligatoring damage in a modified 9Cr-1Mo steel, R. Kishore and T.K. Sinha 273 (1999) 334
- Tritium and Tritides**
- Hydrogen isotope retention in beryllium for tokamak plasma-facing applications, R.A. Anderl, R.A. Causey, J.W. Davis, R.P. Doerner, G. Federici, A.A. Haasz, G.R. Longhurst, W.R. Wampler and K.L. Wilson 273 (1999) 1
- Hydrogen isotope permeation through and inventory in the first wall of the water cooled Pb-17Li blanket for DEMO, O.V. Ogorodnikova, M.A. Fütterer, E. Serra, G. Benamati, J.-F. Salavy and G. Aiello 273 (1999) 66
- Modeling and analysis of time-dependent tritium transport in lithium oxide, A. Badawi, A.R. Raffray and M.A. Abdou 273 (1999) 79
- Evaluation and mitigation of tritium memory in detritiation dryers, C. Malara, I. Ricapito, R.A.H. Edwards and F. Toci 273 (1999) 203
- Uranium, Uranium Alloys and Compounds**
- Behavior of metallic fission products in uranium-plutonium mixed oxide fuel, I. Sato, H. Furuya, T. Arima, K. Idemitsu and K. Yamamoto 273 (1999) 239
- Depth profiles of damage accumulation in UO_2 and $(\text{U,Gd})\text{O}_2$ pellets irradiated with 100 MeV iodine ions, K. Nogita, K. Hayashi, K. Une and K. Fukuda 273 (1999) 302
- Application of a linear free energy relationship to crystalline solids of MO_2 and $\text{M}(\text{OH})_4$, H. Xu, Y. Wang and L.L. Barton 273 (1999) 343
- Vanadium, Vanadium Alloys and Compounds**
- Reactions of hydrogen with V-Cr-Ti alloys, J.R. DiStefano, J.H. De Van, D.H. Röhrig and L.D. Chitwood 273 (1999) 102
- Fatigue failure analysis of V-4Ti-4Cr alloy, H. Aglan, Y.X. Gan, B. Chin and M. Grossbeck 273 (1999) 192
- Wastes**
- Immobilization of spent nuclear fuel in iron phosphate glass, M.G. Mesko and D.E. Day 273 (1999) 27

- Semi-empirical models of actinide alloying, J.K. Gibson, R.G. Haire and T. Ogawa 273 (1999) 139
- Native vacancy migrations in zircon, R.E. Williford, W.J. Weber, R. Devanathan and A.N. Cormack 273 (1999) 164
- Application of a linear free energy relationship to crystalline solids of MO_2 and $\text{M}(\text{OH})_4$, H. Xu, Y. Wang and L.L. Barton 273 (1999) 343
- Zirconium, Zirconium Alloys and Compounds**
- The effect of texture variation on delayed hydride cracking behavior of Zr-2.5%Nb plate, S.S. Kim, S.C. Kwon and Y.S. Kim 273 (1999) 52
- Metal and oxygen mobilities during Zircaloy-4 oxidation at high temperature, A. Grandjean and Y. Serruys 273 (1999) 111
- Effect of strain rate and test temperature on superplasticity of a Zr-2.5 wt% Nb alloy, S.V. Shukla, C. Chandrashekarayya, R.N. Singh, R. Fotedar, R. Kishore, T.K. Sinha and B.P. Kashyap 273 (1999) 130
- Native vacancy migrations in zircon, R.E. Williford, W.J. Weber, R. Devanathan and A.N. Cormack 273 (1999) 164
- Long-term oxidation characteristics of oxygen-added modified Zircaloy-4 in 360°C water, H.S. Hong, S.J. Kim and K.S. Lee 273 (1999) 177
- Characterization of Zircaloy-4 oxide layers by impedance spectroscopy, P. Barberis and A. Frichet 273 (1999) 182
- Diffusion model for the oxidation of Zircaloy-4 at 400°C in steam. The influence of metallurgical structure (precipitates and grain size), E.A. Garcia and G. Béranger 273 (1999) 221
- Determination of the solidus temperatures of Zircaloy-4/oxygen alloys, P.J. Hayward and I.M. George 273 (1999) 294
- Proton irradiation effects in Zr-1.0 Nb-1.0 Sn-0.1 Fe probed by positron annihilation, P. Mukherjee, P.M.G. Nambissan, P. Sen, P. Barat and S.K. Bandyopadhyay 273 (1999) 338