



Subject index

Absorber Materials

- Chemical interactions between B_4C and stainless steel at high temperatures, F. Nagase, H. Uetsuka and T. Otomo 245 (1997) 52

Actinides (excludes Plutonium, Thorium and Uranium)

- Incorporation mechanisms of actinide elements into the structures of U^{6+} phases formed during the oxidation of spent nuclear fuel, P.C. Burns, R.C. Ewing and M.L. Miller 245 (1997) 1
- Thermal expansions of NpO_2 and some other actinide dioxides, T. Yamashita, N. Nitani, T. Tsuji and H. Inagaki 245 (1997) 72

Amorphization and Amorphous Materials

- Characterization of low-level mixed waste sludges: Identifying and controlling sources of variability, S.S. Fu, I.L. Pegg and P.B. Macedo 245 (1997) 79

Analytical Instruments and Methods

- Crystal structure of thin oxide films grown on Zr–Nb alloys studied by RHEED, D. Khatamian and S.D. Lalonde 245 (1997) 10
- A microstructural comparison of two nuclear-grade martensitic steels using small-angle neutron scattering, R. Coppola, F. Fiori, E.A. Little and M. Magnani 245 (1997) 131
- A method for the quantitative phase analysis of ZrO_2 films grown on Zr–2.5% Nb pressure tubes, M.G. Glavicic, J.A. Szpunar and Y.P. Lin 245 (1997) 147
- Detection of stress corrosion cracking and general corrosion of mild steel in simulated defense nuclear waste solutions using electrochemical noise analysis, G.L. Edgemon, M.J. Danielson and G.E.C. Bell 245 (1997) 201

Carbon

- The hydrogen inventory in plasma exposed graphite surfaces, M. Langhoff and B.M.U. Scherzer 245 (1997) 60
- Oxidation and hydrogen isotope exchange in amorphous, deuterated carbon films, W. Wang, W. Jacob and J. Roth 245 (1997) 66

Ceramics (not listed elsewhere)

- Experimental evidence of lithium migration out of an irradiated boron carbide material, D. Simeone, X. Deschanel, B. Berthier and C. Tessier 245 (1997) 27

- Radiation resistant ceramic matrix composites, R.H. Jones, D. Steiner, H.L. Heinisch, G.A. Newsome and H.M. Kerch 245 (1997) 87

Chemical Reactions (includes Electrochemical and Thermochemical Reactions)

- Chemical interactions between B_4C and stainless steel at high temperatures, F. Nagase, H. Uetsuka and T. Otomo 245 (1997) 52
- A review of kinetic data on the rate of U_3O_7 formation on UO_2 , R.J. McEachern 245 (1997) 238

Cladding Materials

- A method for the quantitative phase analysis of ZrO_2 films grown on Zr–2.5% Nb pressure tubes, M.G. Glavicic, J.A. Szpunar and Y.P. Lin 245 (1997) 147
- High pressure oxidation of sponge-Zr in steam/hydrogen mixtures, Y. Kim, W.-E. Wang, S. Lim, D.R. Olander and S.K. Yagnik 245 (1997) 152

Compatibility and Corrosion (includes Stress Corrosion Cracking)

- Incorporation mechanisms of actinide elements into the structures of U^{6+} phases formed during the oxidation of spent nuclear fuel, P.C. Burns, R.C. Ewing and M.L. Miller 245 (1997) 1
- Crystal structure of thin oxide films grown on Zr–Nb alloys studied by RHEED, D. Khatamian and S.D. Lalonde 245 (1997) 10
- Liquid metal embrittlement of Zr–2.5% Nb alloy, B. Cox and Y.-M. Wong 245 (1997) 34
- A method for the quantitative phase analysis of ZrO_2 films grown on Zr–2.5% Nb pressure tubes, M.G. Glavicic, J.A. Szpunar and Y.P. Lin 245 (1997) 147
- High pressure oxidation of sponge-Zr in steam/hydrogen mixtures, Y. Kim, W.-E. Wang, S. Lim, D.R. Olander and S.K. Yagnik 245 (1997) 152
- Oxidation kinetics and microstructure of V–(4–5) wt% Cr–(4–5) wt% Ti alloys exposed to air at 300–650°C, M. Uz, K. Natesan and V.B. Hang 245 (1997) 191
- Detection of stress corrosion cracking and general corrosion of mild steel in simulated defense nuclear waste solutions using electrochemical noise analysis, G.L. Edgemon, M.J. Danielson and G.E.C. Bell 245 (1997) 201

Defects and Defect Structures (*excludes by Irradiation*)

- Highly sensitive measurements of ^{222}Rn permeability in Au, S.K. Bhattacharyya and S.K. Pabi 245 (1997) 44

Diffusion

- Irradiation-driven solute redistribution in Zr alloys, H. Zou, G.M. Hood, J.A. Roy and R.H. Packwood 245 (1997) 248

Electron Irradiation

- Experimental study and modelling of copper precipitation under electron irradiation in dilute FeCu binary alloys, M.H. Mathon, A. Barbu, F. Dunstetter, F. Maury, N. Lorenzelli and C.H. de Novion 245 (1997) 224

Electron Microscopy

- Crystal structure of thin oxide films grown on Zr-Nb alloys studied by RHEED, D. Khatamian and S.D. Lalonde 245 (1997) 10
An electron microscopy study of the RIM structure of a UO_2 fuel with a high burnup of 7.9% FIMA, I.L.F. Ray, Hj. Matzke, H.A. Thiele and M. Kinoshita 245 (1997) 115

First Wall Materials

- A microstructural comparison of two nuclear-grade martensitic steels using small-angle neutron scattering, R. Coppola, F. Fiori, E.A. Little and M. Magnani 245 (1997) 131

Fracture and Fracture Toughness

- Liquid metal embrittlement of Zr-2.5% Nb alloy, B. Cox and Y.-M. Wong 245 (1997) 34

Fuels and Fuel Elements

- Incorporation mechanisms of actinide elements into the structures of U^{6+} phases formed during the oxidation of spent nuclear fuel, P.C. Burns, R.C. Ewing and M.L. Miller 245 (1997) 1
Control of civilian plutonium inventories using burning in a non-fertile fuel, V.M. Oversby, C.C. McPheeters, C. Degueudre and J.M. Paratte 245 (1997) 17
Further observations on OCOM MOX fuel: microstructure in the vicinity of the pellet rim and fuel-cladding interaction, C.T. Walker, W. Goll and T. Matsumura 245 (1997) 169
Characterization of U-2 wt% Mo and U-10 wt% Mo alloy powders prepared by centrifugal atomization, K.H. Kim, D.B. Lee, C.K. Kim, G.E. Hofman and K.W. Paik 245 (1997) 179
A review of kinetic data on the rate of U_3O_7 formation on UO_2 , R.J. McEachern 245 (1997) 238

Fusion Reactors

- Radiation resistant ceramic matrix composites, R.H. Jones, D. Steiner, H.L. Heinisch, G.A. Newsome and H.M. Kerch 245 (1997) 87

Gamma Irradiation

- Low temperature fast-neutron and gamma irradiation of Kapton[®] polyimide films, J. Megusar 245 (1997) 185

Helium

- Formation of bubbles in helium implanted 316L stainless steel at temperatures between 25 and 550°C, C.H. Zhang, K.Q. Chen, Y.S. Wang, J.G. Sun and D.Y. Shen 245 (1997) 210

Hydrogen and Hydrides (*includes Deuterium and Deuterides*)

- The hydrogen inventory in plasma exposed graphite surfaces, M. Langhoff and B.M.U. Scherzer 245 (1997) 60
Oxidation and hydrogen isotope exchange in amorphous, deuterated carbon films, W. Wang, W. Jacob and J. Roth 245 (1997) 66
Influence of traps on the deuterium behaviour in the low activation martensitic steels F82H and Batman, E. Serra, A. Perujo and G. Benamati 245 (1997) 108
Effects of irradiation and implantation on permeation and diffusion of hydrogen isotopes in iron and martensitic stainless steel, F. Wedig and P. Jung 245 (1997) 138
High pressure oxidation of sponge-Zr in steam/hydrogen mixtures, Y. Kim, W.-E. Wang, S. Lim, D.R. Olander and S.K. Yagnik 245 (1997) 152

Ion Irradiation

- Formation of bubbles in helium implanted 316L stainless steel at temperatures between 25 and 550°C, C.H. Zhang, K.Q. Chen, Y.S. Wang, J.G. Sun and D.Y. Shen 245 (1997) 210
Irradiation-driven solute redistribution in Zr alloys, H. Zou, G.M. Hood, J.A. Roy and R.H. Packwood 245 (1997) 248

Iron, Iron Alloys (*excludes Steels*) **and Compounds**

- Factors which control the swelling of Fe-Cr-Ni ternary austenitic alloys, F.A. Garner, C.A. Black and D.J. Edwards 245 (1997) 124
Experimental study and modelling of copper precipitation under electron irradiation in dilute FeCu binary alloys, M.H. Mathon, A. Barbu, F. Dunstetter, F. Maury, N. Lorenzelli and C.H. de Novion 245 (1997) 224

Kinetics

- Chemical interactions between B_4C and stainless steel at high temperatures, F. Nagase, H. Uetsuka and T. Otomo 245 (1997) 52
Oxidation kinetics and microstructure of V-(4-5) wt% Cr-(4-5) wt% Ti alloys exposed to air at 300-650°C, M. Uz, K. Natesan and V.B. Hang 245 (1997) 191

Liquid Metals

- Liquid metal embrittlement of Zr–2.5% Nb alloy, B. Cox and Y.-M. Wong 245 (1997) 34

Metals, Alloys and Compounds (not listed elsewhere)

- Experimental evidence of lithium migration out of an irradiated boron carbide material, D. Simeone, X. Deschanel, B. Berthier and C. Tessier 245 (1997) 27
- Highly sensitive measurements of ^{222}Rn permeability in Au, S.K. Bhattacharyya and S.K. Pabi 245 (1997) 44

Microstructure and Texture (excludes by Irradiation)

- Microstructural characterization of the stabilized fluorite phases formed in the $\text{Ca}_{1-y}\text{La}_y\text{U}_2\text{O}_{6+x}$ ($0 \leq y \leq 0.8$) system, E. Gómez-Rebollo, P. Herrero and R.M. Rojas 245 (1997) 161

Molybdenum, Molybdenum Alloys and Compounds

- Characterization of U–2 wt% Mo and U–10 wt% Mo alloy powders prepared by centrifugal atomization, K.H. Kim, D.B. Lee, C.K. Kim, G.E. Hofman and K.W. Paik 245 (1997) 179

Neutron Irradiation

- Experimental evidence of lithium migration out of an irradiated boron carbide material, D. Simeone, X. Deschanel, B. Berthier and C. Tessier 245 (1997) 27
- Factors which control the swelling of Fe–Cr–Ni ternary austenitic alloys, F.A. Garner, C.A. Black and D.J. Edwards 245 (1997) 124
- Low temperature fast-neutron and gamma irradiation of Kapton[®] polyimide films, J. Megusar 245 (1997) 185

Permeation

- Highly sensitive measurements of ^{222}Rn permeability in Au, S.K. Bhattacharyya and S.K. Pabi 245 (1997) 44
- Influence of traps on the deuterium behaviour in the low activation martensitic steels F82H and Batman, E. Serra, A. Perujo and G. Benamati 245 (1997) 108
- Effects of irradiation and implantation on permeation and diffusion of hydrogen isotopes in iron and martensitic stainless steel, F. Wedig and P. Jung 245 (1997) 138

Plutonium, Plutonium Alloys and Compounds

- Control of civilian plutonium inventories using burning in a non-fertile fuel, V.M. Oversby, C.C. McPheeters, C. Degueldre and J.M. Paratte 245 (1997) 17
- Thermal expansions of NpO_2 and some other actinide dioxides, T. Yamashita, N. Nitani, T. Tsuji and H. Inagaki 245 (1997) 72
- Further observations on OCOM MOX fuel: microstructure in the vicinity of the pellet rim and fuel–cladding interaction, C.T. Walker, W. Goll and T. Matsumura 245 (1997) 169

Polymers

- Low temperature fast-neutron and gamma irradiation of Kapton[®] polyimide films, J. Megusar 245 (1997) 185

Powder Processes and Products

- UO_2 sintering in controlled oxygen atmospheres of three-stage process, Y. Harada 245 (1997) 217

Precipitates and Precipitation

- A microstructural comparison of two nuclear-grade martensitic steels using small-angle neutron scattering, R. Coppola, F. Fiori, E.A. Little and M. Magnani 245 (1997) 131
- Experimental study and modelling of copper precipitation under electron irradiation in dilute FeCu binary alloys, M.H. Mathon, A. Barbu, F. Dunstetter, F. Maury, N. Lorenzelli and C.H. de Novion 245 (1997) 224

Processing

- Characterization of U–2 wt% Mo and U–10 wt% Mo alloy powders prepared by centrifugal atomization, K.H. Kim, D.B. Lee, C.K. Kim, G.E. Hofman and K.W. Paik 245 (1997) 179

Radiation Effects: Extended Defects, Microstructures

- Radiation resistant ceramic matrix composites, R.H. Jones, D. Steiner, H.L. Heinisch, G.A. Newsome and H.M. Kerch 245 (1997) 87
- An electron microscopy study of the RIM structure of a UO_2 fuel with a high burnup of 7.9% FIMA, I.L.F. Ray, Hj. Matzke, H.A. Thiele and M. Kinoshita 245 (1997) 115
- Factors which control the swelling of Fe–Cr–Ni ternary austenitic alloys, F.A. Garner, C.A. Black and D.J. Edwards 245 (1997) 124
- Further observations on OCOM MOX fuel: microstructure in the vicinity of the pellet rim and fuel–cladding interaction, C.T. Walker, W. Goll and T. Matsumura 245 (1997) 169
- Formation of bubbles in helium implanted 316L stainless steel at temperatures between 25 and 550°C, C.H. Zhang, K.Q. Chen, Y.S. Wang, J.G. Sun and D.Y. Shen 245 (1997) 210

Radiation Effects: Mechanical Properties

- Radiation resistant ceramic matrix composites, R.H. Jones, D. Steiner, H.L. Heinisch, G.A. Newsome and H.M. Kerch 245 (1997) 87
- Low temperature fast-neutron and gamma irradiation of Kapton[®] polyimide films, J. Megusar 245 (1997) 185

Rare Earths

- Microstructural characterization of the stabilized fluorite phases formed in the $\text{Ca}_{1-y}\text{La}_y\text{U}_2\text{O}_{6+x}$ ($0 \leq y \leq 0.8$) system, E. Gómez-Rebollo, P. Herrero and R.M. Rojas 245 (1997) 161

Segregation

Irradiation-driven solute redistribution in Zr alloys, H. Zou, G.M. Hood, J.A. Roy and R.H. Packwood 245 (1997) 248

Silicon and Silicon Compounds

Radiation resistant ceramic matrix composites, R.H. Jones, D. Steiner, H.L. Heinisch, G.A. Newsome and H.M. Kerch 245 (1997) 87

Steels, Austenitic

Chemical interactions between B₄C and stainless steel at high temperatures, F. Nagase, H. Uetsuka and T. Otomo 245 (1997) 52

Factors which control the swelling of Fe–Cr–Ni ternary austenitic alloys, F.A. Garner, C.A. Black and D.J. Edwards 245 (1997) 124

Formation of bubbles in helium implanted 316L stainless steel at temperatures between 25 and 550°C, C.H. Zhang, K.Q. Chen, Y.S. Wang, J.G. Sun and D.Y. Shen 245 (1997) 210

Steels, Ferritic

Influence of traps on the deuterium behaviour in the low activation martensitic steels F82H and Batman, E. Serra, A. Perujo and G. Benamati 245 (1997) 108

A microstructural comparison of two nuclear-grade martensitic steels using small-angle neutron scattering, R. Coppola, F. Fiori, E.A. Little and M. Magnani 245 (1997) 131

Effects of irradiation and implantation on permeation and diffusion of hydrogen isotopes in iron and martensitic stainless steel, F. Wedig and P. Jung 245 (1997) 138

Detection of stress corrosion cracking and general corrosion of mild steel in simulated defense nuclear waste solutions using electrochemical noise analysis, G.L. Edgemon, M.J. Danielson and G.E.C. Bell 245 (1997) 201

Surface Effects

The hydrogen inventory in plasma exposed graphite surfaces, M. Langhoff and B.M.U. Scherzer 245 (1997) 60

Oxidation and hydrogen isotope exchange in amorphous, deuterated carbon films, W. Wang, W. Jacob and J. Roth 245 (1997) 66

Thermophysical Properties

Thermal expansions of NpO₂ and some other actinide dioxides, T. Yamashita, N. Nitani, T. Tsuji and H. Inagaki 245 (1997) 72

Thorium, Thorium Alloys and Compounds

Thermal expansions of NpO₂ and some other actinide dioxides, T. Yamashita, N. Nitani, T. Tsuji and H. Inagaki 245 (1997) 72

Uranium, Uranium Alloys and Compounds

Incorporation mechanisms of actinide elements into the structures of U⁶⁺ phases formed during the oxidation of spent nuclear fuel, P.C. Burns, R.C. Ewing and M.L. Miller 245 (1997) 1

Thermal expansions of NpO₂ and some other actinide dioxides, T. Yamashita, N. Nitani, T. Tsuji and H. Inagaki 245 (1997) 72

An electron microscopy study of the RIM structure of a UO₂ fuel with a high burnup of 7.9% FIMA, I.L.F. Ray, H.J. Matzke, H.A. Thiele and M. Kinoshita 245 (1997) 115

Microstructural characterization of the stabilized fluorite phases formed in the Ca_{1-y}La_yU₂O_{6+x} (0 ≤ y ≤ 0.8) system, E. Gómez-Rebollo, P. Herrero and R.M. Rojas 245 (1997) 161

Further observations on OCOM MOX fuel: microstructure in the vicinity of the pellet rim and fuel-cladding interaction, C.T. Walker, W. Goll and T. Matsumura 245 (1997) 169

Characterization of U–2 wt% Mo and U–10 wt% Mo alloy powders prepared by centrifugal atomization, K.H. Kim, D.B. Lee, C.K. Kim, G.E. Hofman and K.W. Paik 245 (1997) 179

UO₂ sintering in controlled oxygen atmospheres of three-stage process, Y. Harada 245 (1997) 217

A review of kinetic data on the rate of U₃O₇ formation on UO₂, R.J. McEachern 245 (1997) 238

Vanadium, Vanadium Alloys and Compounds

Oxidation kinetics and microstructure of V–(4–5) wt% Cr–(4–5) wt% Ti alloys exposed to air at 300–650°C, M. Uz, K. Natesan and V.B. Hang 245 (1997) 191

Vitrification

Characterization of low-level mixed waste sludges: Identifying and controlling sources of variability, S.S. Fu, I.L. Pegg and P.B. Macedo 245 (1997) 79

Wastes

Characterization of low-level mixed waste sludges: Identifying and controlling sources of variability, S.S. Fu, I.L. Pegg and P.B. Macedo 245 (1997) 79

Detection of stress corrosion cracking and general corrosion of mild steel in simulated defense nuclear waste solutions using electrochemical noise analysis, G.L. Edgemon, M.J. Danielson and G.E.C. Bell 245 (1997) 201

A review of kinetic data on the rate of U₃O₇ formation on UO₂, R.J. McEachern 245 (1997) 238

Zirconium, Zirconium Alloys and Compounds

Crystal structure of thin oxide films grown on Zr–Nb alloys studied by RHEED, D. Khatamian and S.D. Lalonde 245 (1997) 10

Control of civilian plutonium inventories using burning in a non-fertile fuel, V.M. Oversby, C.C. McPheeters, C. Degueldre and J.M. Paratte 245 (1997) 17

Liquid metal embrittlement of Zr–2.5% Nb alloy, B. Cox and Y.-M. Wong 245 (1997) 34

- A method for the quantitative phase analysis of ZrO₂ films grown on Zr-2.5% Nb pressure tubes, M.G. Glavicic, J.A. Szpunar and Y.P. Lin 245 (1997) 147
- High pressure oxidation of sponge-Zr in steam/hydrogen mixtures, Y. Kim, W.-E. Wang, S. Lim, D.R. Olander and S.K. Yagnik 245 (1997) 152
- Irradiation-driven solute redistribution in Zr alloys, H. Zou, G.M. Hood, J.A. Roy and R.H. Packwood 245 (1997) 248