



ELSEVIER

Available online at www.sciencedirect.com

SCIENCE @ DIRECT®

Journal of Nuclear Materials 322 (2003) 258–262

**Journal of
nuclear
materials**www.elsevier.com/locate/jnucmat

Subject index

Actinides (*minor, excludes Plutonium, Thorium and Uranium*)

- Crystal structures of curium compounds:
an ab initio study, V. Milman, B.
Winkler and C.J. Pickard 322 (2003) 165

Adsorption

- A critical examination of the thermo-
dynamics of water adsorption on ac-
tinide oxide surfaces, M.T. Paffett, D.
Kelly, S.A. Joyce, J. Morris and K.
Veirs 322 (2003) 45

Amorphization and Amorphous Materials

- Structural role of molybdenum in nuclear
glasses: an EXAFS study, G. Calas,
M. Le Grand, L. Galois and D.
Ghaleb 322 (2003) 15

- Cerium oxidation during leaching of
CeYSiAlO glass, S. Gavarini, M.J.
Guittet, P. Trocellier, M. Gautier-
Soyer, F. Carrot and G. Matzen 322 (2003) 111

- Chemically durable iron phosphate glas-
ses for vitrifying sodium bearing waste
(SBW) using conventional and cold
crucible induction melting (CCIM)
techniques, C.W. Kim, C.S. Ray, D.
Zhu, D.E. Day, D. Gombert, A. Aloy,
A. Mogaš-Milanković and M. Kar-
abulut 322 (2003) 152

- Ion-beam and electron-beam irradiation
of synthetic britholite, S. Utsunomiya,
S. Yudinsev, L.M. Wang and R.C.
Ewing 322 (2003) 180

Carbon

- The mechanical testing of nuclear gra-
phite, B.C. Mitchell, J. Smart, S.L.
Fok and B.J. Marsden 322 (2003) 126

Chemical Reactions (*includes Electrochemical and Thermo- chemical Reactions*)

- In situ investigation of U(IV)-oxide sur-
face dissolution and remineralization
by electrochemical AFM, J. Römer,
M. Plaschke, G. Beuchle and J.I. Kim 322 (2003) 80

- Recovery of uranium from fluoride ma-
trix by solid state reaction routes, S.
Chaudhury, K.D. Singh Mudher and
V. Venugopal 322 (2003) 119

Cladding Materials

- In situ crack growth observation and
fracture toughness measurement of
hydrogen charged Zircaloy-4, G.
Bertolino, G. Meyer and J. Perez
Ipiña 322 (2003) 57

Compatibility and Corrosion (*includes Stress Corrosion Crack- ing*)

- High corrosion resistant Ti–5%Ta–
1.8%Nb alloy for fuel reprocessing
application, K. Kapoor, V. Kain, T.
Gopalkrishna, T. Sanyal and P.K. De 322 (2003) 36

- Cerium oxidation during leaching of
CeYSiAlO glass, S. Gavarini, M.J.
Guittet, P. Trocellier, M. Gautier-
Soyer, F. Carrot and G. Matzen 322 (2003) 111

- Tensile behaviour and acoustic emission
in zirconium alloys after thermal
aging and sodium exposure, P.K.
Chaurasia, C.K. Mukhopadhyay, S.
Murugan, P. Muralidharan, K.
Chandran, V. Ganesan, T. Jayakumar
and P.V. Kumar 322 (2003) 217

Composite Materials

- Mechanical dispersion of Y₂O₃ nano-
particles in steel EUROFER 97:
process and optimisation, V. de Castro,
T. Leguey, M.A. Monge, A. Muñoz,
R. Pareja, D.R. Amador, J.M. Tor-
ralba and M. Victoria 322 (2003) 228

Creep and Stress Relaxation

- Modeling of the non-monotonous visco-
plastic behavior of uranium dioxide,
F. Sauter and S. Leclercq 322 (2003) 1

- Correlation between characteristics of
grain boundary carbides and creep-
fatigue properties in AISI 321 stain-
less steel, K.S. Min and S.W. Nam 322 (2003) 91

Crystallographic Properties

- Cuboctahedral oxygen clusters in U₃O₇,
F. Garrido, R.M. Ibberson, L. Now-
icki and B.T.M. Willis 322 (2003) 87

- Crystal structures of curium compounds:
an ab initio study, V. Milman, B.
Winkler and C.J. Pickard 322 (2003) 165

Deformation

Modeling of the non-monotonous viscoplastic behavior of uranium dioxide, F. Sauter and S. Leclercq 322 (2003) 1

Diffusion

Diffusion bonding of titanium to 304 stainless steel, M. Ghosh, K. Bhanumurthy, G.B. Kale, J. Krishnan and S. Chatterjee 322 (2003) 235

Electron Irradiation

Ion-beam and electron-beam irradiation of synthetic britholite, S. Utsunomiya, S. Yuditsev, L.M. Wang and R.C. Ewing 322 (2003) 180

Electron Microscopy

Correlation between characteristics of grain boundary carbides and creep-fatigue properties in AISI 321 stainless steel, K.S. Min and S.W. Nam 322 (2003) 91

Fatigue

Correlation between characteristics of grain boundary carbides and creep-fatigue properties in AISI 321 stainless steel, K.S. Min and S.W. Nam 322 (2003) 91

Fracture surface topography analysis of in-beam fatigue behavior for 20% cold-worked 316 stainless steel, Y. Murase, J. Nagakawa and N. Yamamoto 322 (2003) 249

Fission Products

Structural role of molybdenum in nuclear glasses: an EXAFS study, G. Calas, M. Le Grand, L. Galois and D. Ghaleb 322 (2003) 15

Enthalpy and Gibbs energy of formation of samarium dicarbide, R. Vidhya, M.P. Antony and P.R. Vasudeva Rao 322 (2003) 189

Fracture and Fracture Toughness

The influence of hydride blisters on the fracture of Zircaloy-4, O.N. Pierron, D.A. Koss, A.T. Motta and K.S. Chan 322 (2003) 21

In situ crack growth observation and fracture toughness measurement of hydrogen charged Zircaloy-4, G. Bertolino, G. Meyer and J. Perez Ipiña 322 (2003) 57

Fuels and Fuel Elements

High corrosion resistant Ti-5%Ta-1.8%Nb alloy for fuel reprocessing application, K. Kapoor, V. Kain, T. Gopal Krishna, T. Sanyal and P.K. De 322 (2003) 36

Enthalpy increments and heat capacities of ThO₂ and (Th_yU_(1-y))O₂, R. Agarwal, R. Prasad and V. Venugopal 322 (2003) 98

Hydrogen and Hydrides (includes Deuterium and Deuterides)

The influence of hydride blisters on the fracture of Zircaloy-4, O.N. Pierron, D.A. Koss, A.T. Motta and K.S. Chan 322 (2003) 21

In situ crack growth observation and fracture toughness measurement of hydrogen charged Zircaloy-4, G. Bertolino, G. Meyer and J. Perez Ipiña 322 (2003) 57

Dissolution and precipitation behavior of hydrides in Zircaloy-2 and high Fe Zircaloy, K. Une and S. Ishimoto 322 (2003) 66

Microstructural study of hydride formation in Zr-1Nb alloy, S. Neogy, D. Srivastava, R. Tewari, R.N. Singh, G.K. Dey and S. Banerjee 322 (2003) 195

Ion Irradiation

Ion-beam and electron-beam irradiation of synthetic britholite, S. Utsunomiya, S. Yuditsev, L.M. Wang and R.C. Ewing 322 (2003) 180

Iron, Iron alloys and Compounds (excludes Steels)

Fracture surface topography analysis of in-beam fatigue behavior for 20% cold-worked 316 stainless steel, Y. Murase, J. Nagakawa and N. Yamamoto 322 (2003) 249

Joining (includes Welding, Brazing, Soldering)

Diffusion bonding of titanium to 304 stainless steel, M. Ghosh, K. Bhanumurthy, G.B. Kale, J. Krishnan and S. Chatterjee 322 (2003) 235

Kinetics

Effect of quenching rate on the β -to- α phase transformation structure in zirconium alloy, A.R. Massih, T. Andersson, P. Witt, M. Dahlbäck and M. Limbäck 322 (2003) 138

Mechanical Properties (not listed elsewhere)

The mechanical testing of nuclear graphite, B.C. Mitchell, J. Smart, S.L. Fok and B.J. Marsden 322 (2003) 126

Room-temperature microindentation behaviour of LWR-fuels, part 1: fuel microhardness, J. Spino, J. Cobos-Sabate and F. Rousseau 322 (2003) 204

Tensile behaviour and acoustic emission in zirconium alloys after thermal aging and sodium exposure, P.K. Chaurasia, C.K. Mukhopadhyay, S. Murugan, P. Muralidharan, K. Chandran, V. Ganesan, T. Jayakumar and P.V. Kumar 322 (2003) 217

- Microstructure and Texture** (*excludes by Irradiation*)
- Microstructural study of hydride formation in Zr–Nb alloy, S. Neogy, D. Srivastava, R. Tewari, R.N. Singh, G.K. Dey and S. Banerjee 322 (2003) 195
- Room-temperature microindentation behaviour of LWR-fuels, part 1: fuel microhardness, J. Spino, J. Cobos-Sabate and F. Rousseau 322 (2003) 204
- Diffusion bonding of titanium to 304 stainless steel, M. Ghosh, K. Bhanumurthy, G.B. Kale, J. Krishnan and S. Chatterjee 322 (2003) 235
- Molybdenum, Molybdenum Alloys and Compounds**
- Structural role of molybdenum in nuclear glasses: an EXAFS study, G. Calas, M. Le Grand, L. Galois and D. Ghaleb 322 (2003) 15
- Phase Equilibria** (*includes Constitution, Phase Stability, Phase Instability*)
- Microstructural study of hydride formation in Zr–Nb alloy, S. Neogy, D. Srivastava, R. Tewari, R.N. Singh, G.K. Dey and S. Banerjee 322 (2003) 195
- Phase Transformation** (*includes Evaporation, Sublimation*)
- Effect of quenching rate on the β -to- α phase transformation structure in zirconium alloy, A.R. Massih, T. Andersson, P. Witt, M. Dahlbäck and M. Limbäck 322 (2003) 138
- Physical Properties** (*not listed elsewhere*)
- Chemically durable iron phosphate glasses for vitrifying sodium bearing waste (SBW) using conventional and cold crucible induction melting (CCIM) techniques, C.W. Kim, C.S. Ray, D. Zhu, D.E. Day, D. Gombert, A. Aloy, A. Moguš-Milanković and M. Karabulut 322 (2003) 152
- Plutonium, Plutonium Alloys and Compounds**
- A critical examination of the thermodynamics of water adsorption on actinide oxide surfaces, M.T. Paffett, D. Kelly, S.A. Joyce, J. Morris and K. Veirs 322 (2003) 45
- Powder Processes and Products**
- Mechanical dispersion of Y_2O_3 nanoparticles in steel EUROFER 97: process and optimisation, V. de Castro, T. Leguey, M.A. Monge, A. Muñoz, R. Pareja, D.R. Amador, J.M. Torralba and M. Victoria 322 (2003) 228
- Precipitates and Precipitation**
- Correlation between characteristics of grain boundary carbides and creep–fatigue properties in AISI 321 stainless steel, K.S. Min and S.W. Nam 322 (2003) 91
- Processing**
- Chemically durable iron phosphate glasses for vitrifying sodium bearing waste (SBW) using conventional and cold crucible induction melting (CCIM) techniques, C.W. Kim, C.S. Ray, D. Zhu, D.E. Day, D. Gombert, A. Aloy, A. Moguš-Milanković and M. Karabulut 322 (2003) 152
- Microstructural study of hydride formation in Zr–Nb alloy, S. Neogy, D. Srivastava, R. Tewari, R.N. Singh, G.K. Dey and S. Banerjee 322 (2003) 195
- Radiation Effects: Mechanical Properties**
- Fracture surface topography analysis of in-beam fatigue behavior for 20% cold-worked 316 stainless steel, Y. Murase, J. Nagakawa and N. Yamamoto 322 (2003) 249
- Rare Earths**
- Cerium oxidation during leaching of CeYSiAlO glass, S. Gavarini, M.J. Guittet, P. Trocellier, M. Gautier-Soyer, F. Carrot and G. Matzen 322 (2003) 111
- Recrystallization, Recovery and Grain Growth**
- The recovery and recrystallization of cold rolled V–W–Ti alloys, J. Chen, T. Muroga, T. Nagasaka, Y. Xu and S. Qiu 322 (2003) 73
- Redeposition**
- Cerium oxidation during leaching of CeYSiAlO glass, S. Gavarini, M.J. Guittet, P. Trocellier, M. Gautier-Soyer, F. Carrot and G. Matzen 322 (2003) 111
- Reprocessing**
- High corrosion resistant Ti–5%Ta–1.8%Nb alloy for fuel reprocessing application, K. Kapoor, V. Kain, T. Gopalkrishna, T. Sanyal and P.K. De 322 (2003) 36
- Silicon and Silicon Compounds**
- Ion-beam and electron-beam irradiation of synthetic britholite, S. Utsunomiya, S. Yudinsev, L.M. Wang and R.C. Ewing 322 (2003) 180
- Steels, Austenitic**
- Correlation between characteristics of grain boundary carbides and creep–fatigue properties in AISI 321 stainless steel, K.S. Min and S.W. Nam 322 (2003) 91
- Diffusion bonding of titanium to 304 stainless steel, M. Ghosh, K. Bhanu-

- murthy, G.B. Kale, J. Krishnan and S. Chatterjee 322 (2003) 235
- Fracture surface topography analysis of in-beam fatigue behavior for 20% cold-worked 316 stainless steel, Y. Murase, J. Nagakawa and N. Yamamoto 322 (2003) 249
- Steels, Ferritic/Martensitic, Low Activation**
- Mechanical dispersion of Y_2O_3 nanoparticles in steel EUROFER 97: process and optimisation, V. de Castro, T. Leguey, M.A. Monge, A. Muñoz, R. Pareja, D.R. Amador, J.M. Torralba and M. Victoria 322 (2003) 228
- Surface Effects**
- The influence of hydride blisters on the fracture of Zircaloy-4, O.N. Pierron, D.A. Koss, A.T. Motta and K.S. Chan 322 (2003) 21
- In situ investigation of U(IV)-oxide surface dissolution and remineralization by electrochemical AFM, J. Römer, M. Plaschke, G. Beuchle and J.I. Kim 322 (2003) 80
- Theory and Modelling**
- Modeling of the non-monotonous viscoplastic behavior of uranium dioxide, F. Sauter and S. Leclercq 322 (2003) 1
- Crystal structures of curium compounds: an ab initio study, V. Milman, B. Winkler and C.J. Pickard 322 (2003) 165
- Thermodynamic Properties**
- A critical examination of the thermodynamics of water adsorption on actinide oxide surfaces, M.T. Paffett, D. Kelly, S.A. Joyce, J. Morris and K. Veirs 322 (2003) 45
- Dissolution and precipitation behavior of hydrides in Zircaloy-2 and high Fe Zircaloy, K. Une and S. Ishimoto 322 (2003) 66
- Enthalpy and Gibbs energy of formation of samarium dicarbide, R. Vidhya, M.P. Antony and P.R. Vasudeva Rao 322 (2003) 189
- Thermophysical Properties**
- Dissolution and precipitation behavior of hydrides in Zircaloy-2 and high Fe Zircaloy, K. Une and S. Ishimoto 322 (2003) 66
- Enthalpy increments and heat capacities of ThO_2 and $(Th_yU_{(1-y)})O_2$, R. Agarwal, R. Prasad and V. Venugopal 322 (2003) 98
- Thorium, Thorium Alloys and Compounds**
- Enthalpy increments and heat capacities of ThO_2 and $(Th_yU_{(1-y)})O_2$, R. Agarwal, R. Prasad and V. Venugopal 322 (2003) 98
- Titanium, Titanium Alloys and Compounds**
- High corrosion resistant Ti-5%Ta-1.8%Nb alloy for fuel reprocessing application, K. Kapoor, V. Kain, T. Gopalkrishna, T. Sanyal and P.K. De 322 (2003) 36
- Diffusion bonding of titanium to 304 stainless steel, M. Ghosh, K. Bhanumurthy, G.B. Kale, J. Krishnan and S. Chatterjee 322 (2003) 235
- Uranium, Uranium Alloys**
- Enthalpy increments and heat capacities of ThO_2 and $(Th_yU_{(1-y)})O_2$, R. Agarwal, R. Prasad and V. Venugopal 322 (2003) 98
- Recovery of uranium from fluoride matrix by solid state reaction routes, S. Chaudhury, K.D. Singh Mudher and V. Venugopal 322 (2003) 119
- Uranium Oxides and Compounds**
- Modeling of the non-monotonous viscoplastic behavior of uranium dioxide, F. Sauter and S. Leclercq 322 (2003) 1
- A critical examination of the thermodynamics of water adsorption on actinide oxide surfaces, M.T. Paffett, D. Kelly, S.A. Joyce, J. Morris and K. Veirs 322 (2003) 45
- In situ investigation of U(IV)-oxide surface dissolution and remineralization by electrochemical AFM, J. Römer, M. Plaschke, G. Beuchle and J.I. Kim 322 (2003) 80
- Cuboctahedral oxygen clusters in U_3O_7 , F. Garrido, R.M. Ibberson, L. Nowicki and B.T.M. Willis 322 (2003) 87
- Recovery of uranium from fluoride matrix by solid state reaction routes, S. Chaudhury, K.D. Singh Mudher and V. Venugopal 322 (2003) 119
- Room-temperature microindentation behaviour of LWR-fuels, part 1: fuel microhardness, J. Spino, J. Cobos-Sabate and F. Rousseau 322 (2003) 204
- Oxidation of UO_2 by radiolytic oxidants, E. Ekeröth and M. Jonsson 322 (2003) 242
- Vanadium, Vanadium Alloys and Compounds**
- The recovery and recrystallization of cold rolled V-W-Ti alloys, J. Chen, T. Muroga, T. Nagasaka, Y. Xu and S. Qiu 322 (2003) 73
- Vitrification**
- Structural role of molybdenum in nuclear glasses: an EXAFS study, G. Calas, M. Le Grand, L. Galois and D. Ghaleb 322 (2003) 15
- Waste Materials**
- Recovery of uranium from fluoride matrix by solid state reaction routes, S.

- Chaudhury, K.D. Singh Mudher and V. Venugopal 322 (2003) 119
- Chemically durable iron phosphate glasses for vitrifying sodium bearing waste (SBW) using conventional and cold crucible induction melting (CCIM) techniques, C.W. Kim, C.S. Ray, D. Zhu, D.E. Day, D. Gombert, A. Aloy, A. Moguš-Milanković and M. Karabulut 322 (2003) 152
- Waste: Behavior in Storage**
- A critical examination of the thermodynamics of water adsorption on actinide oxide surfaces, M.T. Paffett, D. Kelly, S.A. Joyce, J. Morris and K. Veirs 322 (2003) 45
- Cerium oxidation during leaching of CeYSiAlO glass, S. Gavarini, M.J. Guittet, P. Trocellier, M. Gautier-Soyer, F. Carrot and G. Matzen 322 (2003) 111
- Chemically durable iron phosphate glasses for vitrifying sodium bearing waste (SBW) using conventional and cold crucible induction melting (CCIM) techniques, C.W. Kim, C.S. Ray, D. Zhu, D.E. Day, D. Gombert, A. Aloy, A. Moguš-Milanković and M. Karabulut 322 (2003) 152
- Ion-beam and electron-beam irradiation of synthetic britholite, S. Utsunomiya, S. Yudinsev, L.M. Wang and R.C. Ewing 322 (2003) 180
- Oxidation of UO₂ by radiolytic oxidants, E. Ekeröth and M. Jonsson 322 (2003) 242
- Zirconium Hydrides and Compounds**
- The influence of hydride blisters on the fracture of Zircaloy-4, O.N. Pierron, D.A. Koss, A.T. Motta and K.S. Chan 322 (2003) 21
- Dissolution and precipitation behavior of hydrides in Zircaloy-2 and high Fe Zircaloy, K. Une and S. Ishimoto 322 (2003) 66
- Microstructural study of hydride formation in Zr-1Nb alloy, S. Neogy, D. Srivastava, R. Tewari, R.N. Singh, G.K. Dey and S. Banerjee 322 (2003) 195
- Zirconium, Zirconium Alloys**
- The influence of hydride blisters on the fracture of Zircaloy-4, O.N. Pierron, D.A. Koss, A.T. Motta and K.S. Chan 322 (2003) 21
- Dissolution and precipitation behavior of hydrides in Zircaloy-2 and high Fe Zircaloy, K. Une and S. Ishimoto 322 (2003) 66
- Effect of quenching rate on the β -to- α phase transformation structure in zirconium alloy, A.R. Massih, T. Andersson, P. Witt, M. Dahlbäck and M. Limbäck 322 (2003) 138
- Tensile behaviour and acoustic emission in zirconium alloys after thermal aging and sodium exposure, P.K. Chaurasia, C.K. Mukhopadhyay, S. Murugan, P. Muralidharan, K. Chandran, V. Ganesan, T. Jayakumar and P.V. Kumar 322 (2003) 217