



ELSEVIER

Journal of Nuclear Materials 282 (2000) 269–273

---

**journal of  
nuclear  
materials**

---

[www.elsevier.nl/locate/jnucmat](http://www.elsevier.nl/locate/jnucmat)

## Subject index

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

- The EFTTRA-T4 experiment on americium transmutation, R.J.M. Konings, R. Conrad, G. Dassel, B.J. Pijlgroms, J. Somers and E. Toscano 282 (2000) 159

**Amorphization and Amorphous Materials**

- Basaltic glass: alteration mechanisms and analogy with nuclear waste glasses, I. Techer, T. Advocat, J. Lancelot and J.-M. Liottard 282 (2000) 40
- An interlaboratory study of a standard glass for acceptance testing of low-activity waste glass, W.L. Ebert and S.F. Wolf 282 (2000) 112

**Analytical Instruments and Methods**

- Multiple voltage electron probe micro-analysis of fission gas bubbles in irradiated nuclear fuel, M. Verwerft 282 (2000) 97
- Selective excitation of odd gadolinium isotopes using two-colour photoionisation schemes, P.V. Kiran Kumar, M.V. Suryanarayana and S. Gangadharan 282 (2000) 255

**Carbon**

- Mechanism of chemical sputtering of graphite under high flux deuterium bombardment, Y. Ueda, T. Sugai, Y. Ohtsuka and M. Nishikawa 282 (2000) 216

**Cavities (includes Voids, Holes)**

- Kinetics of gas bubble ensemble in supersaturated solid solution of point defects and gas atoms, R.E. Voskoboinikov and A.E. Volkov 282 (2000) 66

**Chemical Reactions (includes Electrochemical and Thermochemical Reactions)**

- An interlaboratory study of a standard glass for acceptance testing of low-activity waste glass, W.L. Ebert and S.F. Wolf 282 (2000) 112
- Preparation of uranium by electrolysis in chloride melt, K. Serrano, P. Taxil, O. Dugne, S. Bouvet and E. Puech 282 (2000) 137
- Solid state reactions of  $\text{UO}_2$ ,  $\text{ThO}_2$  and their mixed oxides with sulphates of po-

- tassium, M. Keskar, U.M. Kasar and K.D. Singh Mudher 282 (2000) 146

- A new method for determining oxygen solubility in molten carbonates and carbonate-chloride mixtures using the oxidation of  $\text{UO}_2$  to uranate reaction, V.A. Volkovich, T.R. Griffiths, D.J. Fray and R.C. Thied 282 (2000) 152

- Mechanism of chemical sputtering of graphite under high flux deuterium bombardment, Y. Ueda, T. Sugai, Y. Ohtsuka and M. Nishikawa 282 (2000) 216

**Coatings and Coated Particles**

- Boron coating on boron nitride coated nuclear fuels by chemical vapor deposition, H.H. Durmazuçar and G. Gündüz 282 (2000) 239

**Compatibility and Corrosion (include Stress Corrosion Cracking)**

- Corrosion resistance of nitrogen-implanted Zircaloy-4 in high-temperature water, S. Lee, C. Park, H. Kwon and B. Choi 282 (2000) 223

- Thermally induced gallium removal from plutonium dioxide for MOX fuel production, D.G. Kolman, M.E. Griego, C.A. James and D.P. Butt 282 (2000) 245

**Defects and Defect Structures (excludes by Irradiation)**

- Theoretical oxygen potential change of quaternary solid solution,  $\text{A}_y^{2+}\text{B}_z^{3+}\text{U}_{1-y-z}^{4+}\text{O}_{2+x}$ , by configurational entropy calculation, T. Fujino and N. Sato 282 (2000) 232

**Diffusion**

- Effect of partial damage efficiencies on the radiation-induced segregation in binary alloys, M.V. Sorokin and A.E. Volkov 282 (2000) 47

**Embrittlement**

- Embrittlement of low copper VVER 440 surveillance samples neutron-irradiated to high fluences, M.K. Miller, K.F. Russell, J. Kocik and E. Keilova 282 (2000) 83

**Fast Reactors**

The effects of long-time irradiation and thermal aging on 304 stainless steel, T.R. Allen, J.I. Cole, C.L. Trybus and D.L. Porter

Thermal conductivity of uranium-plutonium oxide fuel for fast reactors, M. Inoue

**Fatigue**

Comparative study on the fatigue crack growth behavior of 316L and 316LN stainless steels: effect of microstructure of cyclic plastic strain zone at crack tip, W.-Y. Maeng and M.-H. Kim

282 (2000) 171

282 (2000) 186

282 (2000) 32

**Fission Products**

Fuel corrosion processes under waste disposal conditions, D.W. Shoesmith

Multiple voltage electron probe micro-analysis of fission gas bubbles in irradiated nuclear fuel, M. Verwerft

Vaporization behavior and Gibbs energy of formation of  $\text{Cs}_2\text{ThO}_3$ , M. Ali (Basu), R. Mishra, K.N.G. Kaimal, S.R. Bharadwaj, A.S. Kerkar, D. Das and S.R. Dharwadkar

Comment on 'Location of krypton atoms in uranium dioxide' by T. Petit, G. Jomard, C. Lemaignan, B. Bigot and A. Pasturel, C.R. Stanek and R.W. Grimes

282 (2000) 1

282 (2000) 97

282 (2000) 261

282 (2000) 265

**Fuels and Fuel Elements**

Fuel corrosion processes under waste disposal conditions, D.W. Shoesmith

Dissolution of  $\text{UO}_2$  in Boom clay water in oxidizing conditions: an XPS study, S. Guilbert, M.J. Guittet, N. Barré, M. Gautier-Soyer, P. Trocellier, D. Gosset and Z. Andriambololona

Solid state reactions of  $\text{UO}_2$ ,  $\text{ThO}_2$  and their mixed oxides with sulphates of potassium, M. Keskar, U.M. Kasar and K.D. Singh Mudher

A new method for determining oxygen solubility in molten carbonates and carbonate-chloride mixtures using the oxidation of  $\text{UO}_2$  to uranate reaction, V.A. Volkovich, T.R. Griffiths, D.J. Fray and R.C. Thied

RAPID model to predict radial burnup distribution in LWR  $\text{UO}_2$  fuel, C.B. Lee, D.H. Kim, J.S. Song, J.G. Bang and Y.H. Jung

Investigation of aerosols released at high temperature from nuclear reactor core models, A. Pintér Csordás, L. Matus, A. Czitrovszky, P. Jani, L. Maróti, Z. Hózzer, P. Windberg and R. Hummel

Boron coating on boron nitride coated nuclear fuels by chemical vapor deposition, H.H. Durmazuçar and G. Gündüz

282 (2000) 1

282 (2000) 75

282 (2000) 146

282 (2000) 152

282 (2000) 196

282 (2000) 205

282 (2000) 239

Thermally induced gallium removal from plutonium dioxide for MOX fuel production, D.G. Kolman, M.E. Griego, C.A. James and D.P. Butt

Selective excitation of odd gadolinium isotopes using two-colour photoionisation schemes, P.V. Kiran Kumar, M.V. Suryanarayana and S. Gangadharan

282 (2000) 245

282 (2000) 255

**Helium**

Kinetics of gas bubble ensemble in super-saturated solid solution of point defects and gas atoms, R.E. Voskoboinikov and A.E. Volkov

282 (2000) 66

**Hydrogen and Hydrides (includes Deuterium and Deuterides)**

The surface rate constants of deuterium in the reduced activating martensitic steel OPTIFER-IVb, G.A. Esteban, A. Perujo, L.A. Sedano and B. Mancinelli

Retention of ion-implanted deuterium in tungsten pre-irradiated with carbon ions, V.Kh. Alimov, K. Ertl, J. Roth and K. Schmid

Mechanism of chemical sputtering of graphite under high flux deuterium bombardment, Y. Ueda, T. Sugai, Y. Ohtsuka and M. Nishikawa

282 (2000) 89

282 (2000) 125

282 (2000) 216

**Impurities**

Thermally induced gallium removal from plutonium dioxide for MOX fuel production, D.G. Kolman, M.E. Griego, C.A. James and D.P. Butt

282 (2000) 245

**Ion Irradiation**

Retention of ion-implanted deuterium in tungsten pre-irradiated with carbon ions, V.Kh. Alimov, K. Ertl, J. Roth and K. Schmid

Helium and hydrogen induced hardening in 316LN stainless steel, J.D. Hunn, E.H. Lee, T.S. Byun and L.K. Mansur

Mechanism of chemical sputtering of graphite under high flux deuterium bombardment, Y. Ueda, T. Sugai, Y. Ohtsuka and M. Nishikawa

Corrosion resistance of nitrogen-implanted Zircaloy-4 in high-temperature water, S. Lee, C. Park, H. Kwon and B. Choi

282 (2000) 125

282 (2000) 131

282 (2000) 216

282 (2000) 223

**Kinetics**

Effect of partial damage efficiencies on the radiation-induced segregation in binary alloys, M.V. Sorokin and A.E. Volkov

Kinetics of gas bubble ensemble in super-saturated solid solution of point defects and gas atoms, R.E. Voskoboinikov and A.E. Volkov

282 (2000) 47

282 (2000) 66

**Laser**

- Selective excitation of odd gadolinium isotopes using two-colour photoionisation schemes, P.V. Kiran Kumar, M.V. Suryanarayana and S. Gangadharan  
282 (2000) 255

**Microstructure and Texture (excludes by Irradiation)**

- Comparative study on the fatigue crack growth behavior of 316L and 316LN stainless steels: effect of microstructure of cyclic plastic strain zone at crack tip, W.-Y. Maeng and M.-H. Kim  
282 (2000) 32

**Neutron Irradiation**

- Embrittlement of low copper VVER 440 surveillance samples neutron-irradiated to high fluences, M.K. Miller, K.F. Russell, J. Kocik and E. Keilova  
282 (2000) 83

- The EFTTRA-T4 experiment on americium transmutation, R.J.M. Konings, R. Conrad, G. Dassel, B.J. Pijlgroms, J. Somers and E. Toscano  
282 (2000) 159

- The effects of long-time irradiation and thermal aging on 304 stainless steel, T.R. Allen, J.I. Cole, C.L. Trybus and D.L. Porter  
282 (2000) 171

- Thermal conductivity of uranium-plutonium oxide fuel for fast reactors, M. Inoue  
282 (2000) 186

**Nuclear Properties**

- Selective excitation of odd gadolinium isotopes using two-colour photoionisation schemes, P.V. Kiran Kumar, M.V. Suryanarayana and S. Gangadharan  
282 (2000) 255

**Permeation**

- The surface rate constants of deuterium in the reduced activating martensitic steel OPTIFER-IVb, G.A. Esteban, A. Perujo, L.A. Sedano and B. Mancinelli  
282 (2000) 89

**Plasma-Materials Interaction**

- Mechanism of chemical sputtering of graphite under high flux deuterium bombardment, Y. Ueda, T. Sugai, Y. Ohtsuka and M. Nishikawa  
282 (2000) 216

- Plutonium, Plutonium Alloys and Compounds**  
Sintering studies on  $\text{UO}_2\text{-PuO}_2$  pellets with varying  $\text{PuO}_2$  content using dilatometry, T.R.G. Kutty, P.V. Hegde, K.B. Khan, S. Majumdar and D.S.C. Purushotham  
282 (2000) 54

- Thermal conductivity of uranium-plutonium oxide fuel for fast reactors, M. Inoue  
282 (2000) 186

- Thermally induced gallium removal from plutonium dioxide for MOX fuel production, D.G. Kolman, M.E. Griego, C.A. James and D.P. Butt  
282 (2000) 245

**Powder Processes and Products**

- Sintering studies on  $\text{UO}_2\text{-PuO}_2$  pellets with varying  $\text{PuO}_2$  content using dilatometry, T.R.G. Kutty, P.V. Hegde, K.B. Khan, S. Majumdar and D.S.C. Purushotham  
282 (2000) 54

**Processing**

- Solid state reactions of  $\text{UO}_2$ ,  $\text{ThO}_2$  and their mixed oxides with sulphates of potassium, M. Keskar, U.M. Kasar and K.D. Singh Mudher  
282 (2000) 146

- Thermally induced gallium removal from plutonium dioxide for MOX fuel production, D.G. Kolman, M.E. Griego, C.A. James and D.P. Butt  
282 (2000) 245

**Radiation Effects: Atomic Defects**

- Effect of partial damage efficiencies on the radiation-induced segregation in binary alloys, M.V. Sorokin and A.E. Volkov  
282 (2000) 47

**Radiation Effects: Extended Defects, Microstructures**

- Embrittlement of low copper VVER 440 surveillance samples neutron-irradiated to high fluences, M.K. Miller, K.F. Russell, J. Kocik and E. Keilova  
282 (2000) 83

- The effects of long-time irradiation and thermal aging on 304 stainless steel, T.R. Allen, J.I. Cole, C.L. Trybus and D.L. Porter  
282 (2000) 171

**Radiation Effects: Mechanical Properties**

- Helium and hydrogen induced hardening in 316LN stainless steel, J.D. Hunn, E.H. Lee, T.S. Byun and L.K. Mansur  
282 (2000) 131

- The effects of long-time irradiation and thermal aging on 304 stainless steel, T.R. Allen, J.I. Cole, C.L. Trybus and D.L. Porter  
282 (2000) 171

**Segregation**

- Effect of partial damage efficiencies on the radiation-induced segregation in binary alloys, M.V. Sorokin and A.E. Volkov  
Embrittlement of low copper VVER 440 surveillance samples neutron-irradiated to high fluences, M.K. Miller, K.F. Russell, J. Kocik and E. Keilova  
282 (2000) 47

**Silicon and Silicon Compounds**

- Basaltic glass: alteration mechanisms and analogy with nuclear waste glasses, I. Techer, T. Advocat, J. Lancelot and J.-M. Liottard  
282 (2000) 40

**Steels, Austenitic**

- Comparative study on the fatigue crack growth behavior of 316L and 316LN stainless steels: effect of microstructure of cyclic plastic strain zone at crack tip, W.-Y. Maeng and M.-H. Kim  
282 (2000) 32

Helium and hydrogen induced hardening in 316LN stainless steel, J.D. Hunn, E.H. Lee, T.S. Byun and L.K. Mansur	282 (2000) 131	<b>Thermophysical Properties</b>
The effects of long-time irradiation and thermal aging on 304 stainless steel, T.R. Allen, J.I. Cole, C.L. Trybus and D.L. Porter	282 (2000) 171	Thermal conductivity of uranium–plutonium oxide fuel for fast reactors, M. Inoue
<b>Steels, Ferritic</b>		282 (2000) 186
Embrittlement of low copper VVER surveillance samples neutron-irradiated to high fluences, M.K. Miller, K.F. Russell, J. Kocik and E. Keilova	282 (2000) 83	<b>Thorium, Thorium Alloys and Compounds</b>
The surface rate constants of deuterium in the reduced activating martensitic steel OPTIFER-IVb, G.A. Esteban, A. Perujo, L.A. Sedano and B. Mancinelli	282 (2000) 89	Solid state reactions of $\text{UO}_2$ , $\text{ThO}_2$ and their mixed oxides with sulphates of potassium, M. Keskar, U.M. Kasar and K.D. Singh Mudher
<b>Swelling</b>		282 (2000) 146
Kinetics of gas bubble ensemble in super-saturated solid solution of point defects and gas atoms, R.E. Voskoboinikov and A.E. Volkov	282 (2000) 66	Long-term behaviour of a thorium-based fuel, B. Fourest, T. Vincent, G. Lagarde, S. Hubert and P. Baudoin
The effects of long-time irradiation and thermal aging on 304 stainless steel, T.R. Allen, J.I. Cole, C.L. Trybus and D.L. Porter	282 (2000) 171	Vaporization behavior and Gibbs energy of formation of $\text{Cs}_2\text{ThO}_3$ , M. Ali (Basu), R. Mishra, K.N.G. Kaimal, S.R. Bharadwaj, A.S. Kerkar, D. Das and S.R. Dharwadkar
<b>Theory and Modelling</b>		282 (2000) 261
Effect of partial damage efficiencies on the radiation-induced segregation in binary alloys, M.V. Sorokin and A.E. Volkov	282 (2000) 47	<b>Tungsten, Tungsten Alloys and Compounds</b>
Kinetics of gas bubble ensemble in super-saturated solid solution of point defects and gas atoms, R.E. Voskoboinikov and A.E. Volkov	282 (2000) 66	Retention of ion-implanted deuterium in tungsten pre-irradiated with carbon ions, V.Kh. Alimov, K. Ertl, J. Roth and K. Schmid
RAPID model to predict radial burnup distribution in LWR $\text{UO}_2$ fuel, C.B. Lee, D.H. Kim, J.S. Song, J.G. Bang and Y.H. Jung	282 (2000) 196	282 (2000) 125
Theoretical oxygen potential change of quaternary solid solution, $\text{A}_y^{2+}\text{B}_z^{3+}\text{U}_{1-y-z}\text{O}_{2+x}$ , by configurational entropy calculation, T. Fujino and N. Sato	282 (2000) 232	<b>Uranium, Uranium Alloys and Compounds</b>
<b>Thermodynamic Properties</b>		Sintering studies on $\text{UO}_2$ – $\text{PuO}_2$ pellets with varying $\text{PuO}_2$ content using dilatometry, T.R.G. Kutty, P.V. Hegde, K.B. Khan, S. Majumdar and D.S.C. Purushotham
A new method for determining oxygen solubility in molten carbonates and carbonate–chloride mixtures using the oxidation of $\text{UO}_2$ to uranate reaction, V.A. Volkovich, T.R. Griffiths, D.J. Fray and R.C. Thied	282 (2000) 152	Dissolution of $\text{UO}_2$ in Boom clay water in oxidizing conditions: an XPS study, S. Guilbert, M.J. Guittet, N. Barré, M. Gautier-Soyer, P. Trocellier, D. Gosset and Z. Andriambololona
Theoretical oxygen potential change of quaternary solid solution, $\text{A}_y^{2+}\text{B}_z^{3+}\text{U}_{1-y-z}\text{O}_{2+x}$ , by configurational entropy calculation, T. Fujino and N. Sato	282 (2000) 232	Preparation of uranium by electrolysis in chloride melt, K. Serrano, P. Taxil, O. Dugne, S. Bouvet and E. Puech
Vaporization behavior and Gibbs energy of formation of $\text{Cs}_2\text{ThO}_3$ , M. Ali (Basu), R. Mishra, K.N.G. Kaimal, S.R. Bharadwaj, A.S. Kerkar, D. Das and S.R. Dharwadkar	282 (2000) 261	Solid state reactions of $\text{UO}_2$ , $\text{ThO}_2$ and their mixed oxides with sulphates of potassium, M. Keskar, U.M. Kasar and K.D. Singh Mudher
		282 (2000) 54
		Preparation of uranium by electrolysis in chloride melt, K. Serrano, P. Taxil, O. Dugne, S. Bouvet and E. Puech
		282 (2000) 137
		Solid state reactions of $\text{UO}_2$ , $\text{ThO}_2$ and their mixed oxides with sulphates of potassium, M. Keskar, U.M. Kasar and K.D. Singh Mudher
		282 (2000) 146
		A new method for determining oxygen solubility in molten carbonates and carbonate–chloride mixtures using the oxidation of $\text{UO}_2$ to uranate reaction, V.A. Volkovich, T.R. Griffiths, D.J. Fray and R.C. Thied
		282 (2000) 152
		Thermal conductivity of uranium–plutonium oxide fuel for fast reactors, M. Inoue
		282 (2000) 186
		RAPID model to predict radial burnup distribution in LWR $\text{UO}_2$ fuel, C.B. Lee, D.H. Kim, J.S. Song, J.G. Bang and Y.H. Jung
		282 (2000) 196
		Theoretical oxygen potential change of quaternary solid solution, $\text{A}_y^{2+}\text{B}_z^{3+}\text{U}_{1-y-z}\text{O}_{2+x}$ , by configurational entropy calculation, T. Fujino and N. Sato
		282 (2000) 232
		Comment on ‘Location of krypton atoms in uranium dioxide’ by T. Petit, G. Jomard, C. Lemaignan, B. Bigot and A. Pasturel, C.R. Staneck and R.W. Grimes
		282 (2000) 265

**Wastes**

Fuel corrosion processes under waste disposal conditions, D.W. Shoesmith

Basaltic glass: alteration mechanisms and analogy with nuclear waste glasses, I. Techer, T. Advocat, J. Lancelot and J.-M. Liotard

Dissolution of UO<sub>2</sub> in Boom clay water in oxidizing conditions: an XPS study, S. Guilbert, M.J. Guittet, N. Barré, M. Gautier-Soyer, P. Trocellier, D. Gosset and Z. Andriambololona

- 282 (2000) 1 An interlaboratory study of a standard glass for acceptance testing of low-activity waste glass, W.L. Ebert and S.F. Wolf
- 282 (2000) 40 Long-term behaviour of a thorium-based fuel, B. Fourest, T. Vincent, G. Lagarde, S. Hubert and P. Baudoïn
- 282 (2000) 75 **Zirconium, Zirconium Alloys and Compounds**  
Corrosion resistance of nitrogen-implanted Zircaloy-4 in high-temperature water, S. Lee, C. Park, H. Kwon and B. Choi
- 282 (2000) 112
- 282 (2000) 180
- 282 (2000) 223