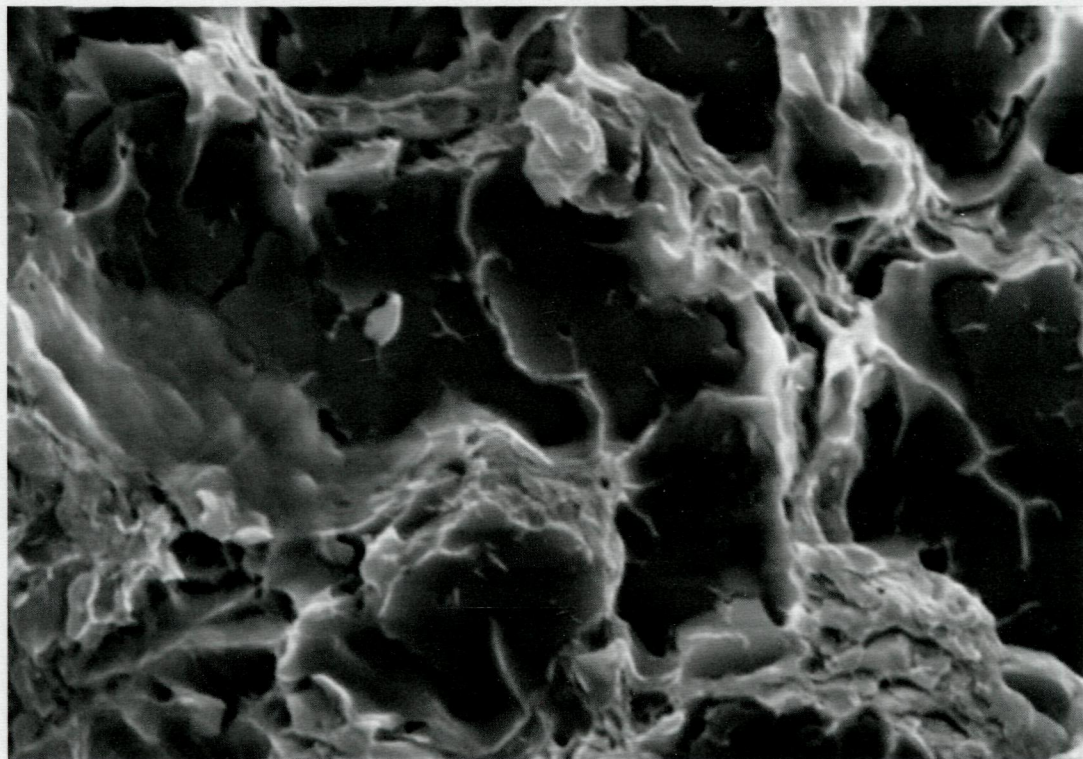


NU
J 80/nm

Journal of Nuclear Materials



EDITORS

- L.K. MANSUR — Oak Ridge, TN, USA (Chairman)
M. GRIFFITHS — Chalk River, ON, Canada
T. MUROGA — Toki, Japan
T. OGAWA — Niigata, Japan
R.E. STOLLER — Oak Ridge, TN, USA
L.O. WERME — Uppsala, Sweden

Abstracted/Indexed in: Aluminium Industry Abstracts/Chemical Abstracts/Current Contents: Engineering, Computing and Technology/Current Contents: Physical, Chemical and Earth Sciences/EI Compendex Plus/Engineered Materials Abstracts/Engineering Index/INSPEC/Metals Abstracts. Also covered in the abstract and citation database Scopus®. Full text available on ScienceDirect®

CONTENTS

Effect of surface strain on oxygen adsorption on Zr (0001) surface, X. Wang, M. Khafizov and I. Szlufarska		Thermal diffusion of helium in ²³⁸ Pu-doped UO ₂ , Z. Talip, T. Wiss, V. Di Marcello, A. Janssen, J.-Y. Colle, P. Van Uffelen, P. Raison and R.J.M. Konings	117
Monitoring the oxidation of nuclear fuel cladding using Raman spectroscopy, H. Mi, S. Mikael, T. Allen, K. Sridharan, D. Butt, J.P. Blanchard and Z. Ma	1	A review on helium mobility in inorganic materials, P. Trocellier, S. Agarwal and S. Miro	128
Microstructure evolution of two model ferritic/martensitic steels under in situ ion irradiation at low doses (0–2 dpa), D. Kaoumi, J. Adamson and M. Kirk	7	Relationship between lath boundary structure and radiation induced segregation in a neutron irradiated 9 wt.% Cr model ferritic/martensitic steel, K.G. Field, B.D. Miller, H.J.M. Chichester, K. Sridharan and T.R. Allen	143
Ag transport in high temperature neutron irradiated 3C–SiC, J.H. O'Connell and J.H. Neethling	12	On the cathodoluminescence and thermoluminescence emission of lithium titanate ceramics, M. González and V. Correcher	149
Fast fabrication of W–Cu functionally graded material by high-gravity combustion synthesis and melt-infiltration, P. Zhao, S.B. Guo, G.H. Liu, Y.X. Chen and J.T. Li	20	Chemical durability and structural analysis of PbO–B ₂ O ₃ glasses and testing for simulated radioactive wastes, C. Erdogan, M. Bengisu and S.A. Erenturk	154
Crush strength of silicon carbide coated TRISO particles: Influence of test method and process variables, R.D. Cromarty, G.T. van Rooyen and J.P.R. de Villiers	26	Helium solubility and bubble formation in a nanostructured ferritic alloy, Q. Li, C.M. Parish, K.A. Powers and M.K. Miller	165
Effect of the thermal ageing on the tensile and impact properties of a 18%Cr ODS ferritic steel, A.L. Rouffié, J. Crépin, M. Sennour, B. Tanguy, A. Pineau, D. Hamon, P. Wident, S. Vincent, V. Garat and B. Fournier	30	Thermal conductivities of ThO ₂ , NpO ₂ and their related oxides: Molecular dynamics study, T. Arima, K. Yoshida, T. Matsumoto, Y. Inagaki and K. Idemitsu	175
The segregation behavior of manganese and silicon at the coherent interfaces of copper precipitates in ferritic steels, Y.-P. Xie and S.-J. Zhao	37	Experimental and ab initio study of enhanced resistance to amorphization of nanocrystalline silicon carbide under electron irradiation, L. Jamison, M.-J. Zheng, S. Shannon, T. Allen, D. Morgan and I. Szlufarska	181
Evidence for core–shell nanoclusters in oxygen dispersion strengthened steels measured using X-ray absorption spectroscopy, S. Liu, G.R. Odette and C.U. Segre	43	Model for the conversion of nuclear waste melter feed to glass, R. Pokorny and P. Hrma	190
Correlation between radiation damage and magnetic properties in reactor vessel steels, R.A. Kempf, J. Sacanell, J. Milano, N. Guerra Méndez, E. Winkler, A. Butera, H. Troiani, M.E. Saleta and A.M. Fortis	50	Fabrication of simulated plate fuel elements: Defining role of out-of-plane residual shear stress, R. Rakesh, D. Kohli, V.P. Sinha, G.J. Prasad and I. Samajdar	200
Properties of B ₄ C–PbO–Al(OH) ₃ -epoxy nanocomposite prepared by ultrasonic dispersion approach for high temperature neutron shields, M.K. Lee, J.K. Lee, J.W. Kim and G.J. Lee	57	The evolution mechanism of the dislocation loops in irradiated lanthanum doped cerium oxide, Y. Miao, D. Aidhy, W.-Y. Chen, K. Mo, A. Oaks, D. Wolf and J.F. Stubbins	209
Novel low Wigner energy amorphous carbon–carbon composite, K. Dasgupta, J. Prakash and B.M. Tripathi	63	Investigation of powdering ductile gamma U-10 wt%Mo alloy for dispersion fuels, R.M. Leal Neto, C.J. Rocha, E. Urano de Carvalho, H.G. Riella and M. Durazzo	218
Reduction in the onset time of breakaway oxidation on Zircaloy cladding ruptured under simulated LOCA conditions, M. Yamato, F. Nagase and M. Amaya	72	Effect of impurities on vacancy migration energy in Fe-based alloys, N. Hashimoto, S. Sakuraya, J. Tanimoto and S. Ohnuki	224
Thermal stability of nanoscale helium bubbles in a 14YWT nanostructured ferritic alloy, P.D. Edmondson, C.M. Parish, Q. Li and M.K. Miller	78	Elevated temperature irradiation damage in CANDU spacer material Inconel X-750, H.K. Zhang, Z. Yao, M.R. Daymond and M.A. Kirk	227
Evaluation of surface deposits on the channel wall of trepanned reactor core graphite samples, P.J. Heard, L. Payne, M.R. Wootton and P.E.J. Flewitt	84	Helium ion irradiation induced swelling and hardening in commercial and experimental ODS steels, L. Fave, M.A. Pouchon, M. Döbeli, M. Schulte-Borchers and A. Kimura	235
Modeling of Zircaloy cladding primary creep during load drop and reversal, V. Tulkki and T. Ikonen	91	Effect of alloying elements on the properties of Zr and the Zr–H system, M. Christensen, W. Wolf, C.M. Freeman, E. Wimmer, R.B. Adamson, L. Hallstadius, P.E. Cantonwine and E.V. Mader	241
Stability of the strengthening nanoprecipitates in reduced activation ferritic steels under Fe ²⁺ ion irradiation, L. Tan, Y. Katoh and L.L. Snead	98	Response of nanostructured ferritic alloys to high-dose heavy ion irradiation, C.M. Parish, R.M. White, J.M. LeBeau and M.K. Miller	251
Fabrication and characterization of Li ₂ TiO ₃ core–shell pebbles with enhanced lithium density, M. Hong, Y. Zhang, Y. Mi, M. Xiang and Y. Zhang	104	Asymmetry of radiation damage properties in Al–Ti nanolayers, W. Setyawan, M. Gerboth, B. Yao, C.H. Henager, A. Devaraj, V.R.S.R. Vemuri, S. Thevuthasan and V. Shutthanandan	261
	111		

(Contents continued on inside back cover)



(Contents continued from outside back cover)

Thermal conductivities of actinides (U, Pu, Np, Cm, Am) and uranium-alloys (U-Zr, U-Pu-Zr and U-Pu-TRU-Zr), <i>Y.S. Kim, T.W. Cho and D.-S. Sohn</i>	272	Mechanism for radiation damage resistance in yttrium oxide dispersion strengthened steels, <i>J. Brodrick, D.J. Hepburn and G.J. Ackland</i>	291
The role of microstructure on the optical performance of neutron irradiated dielectric mirrors, <i>K.J. Leonard, G.E. Jellison, N.A.P.K. Kumar and L.L. Snead</i>	281	Characterization of Ni-20Cr-5Al model alloy in supercritical water, <i>X. Huang and D. Guzonas</i>	298