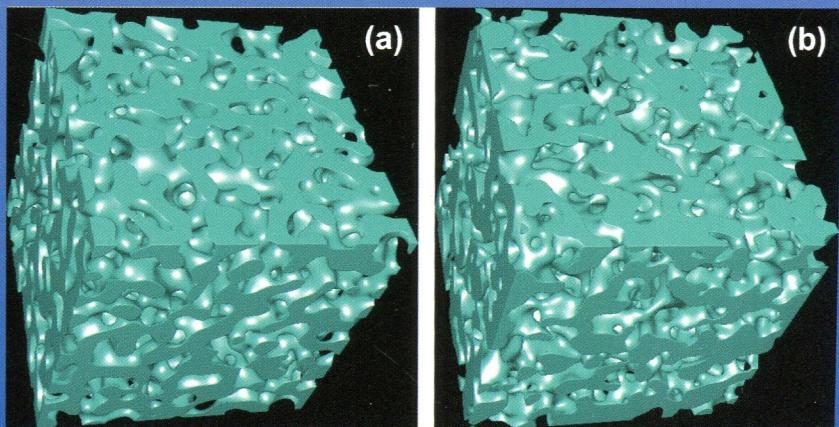
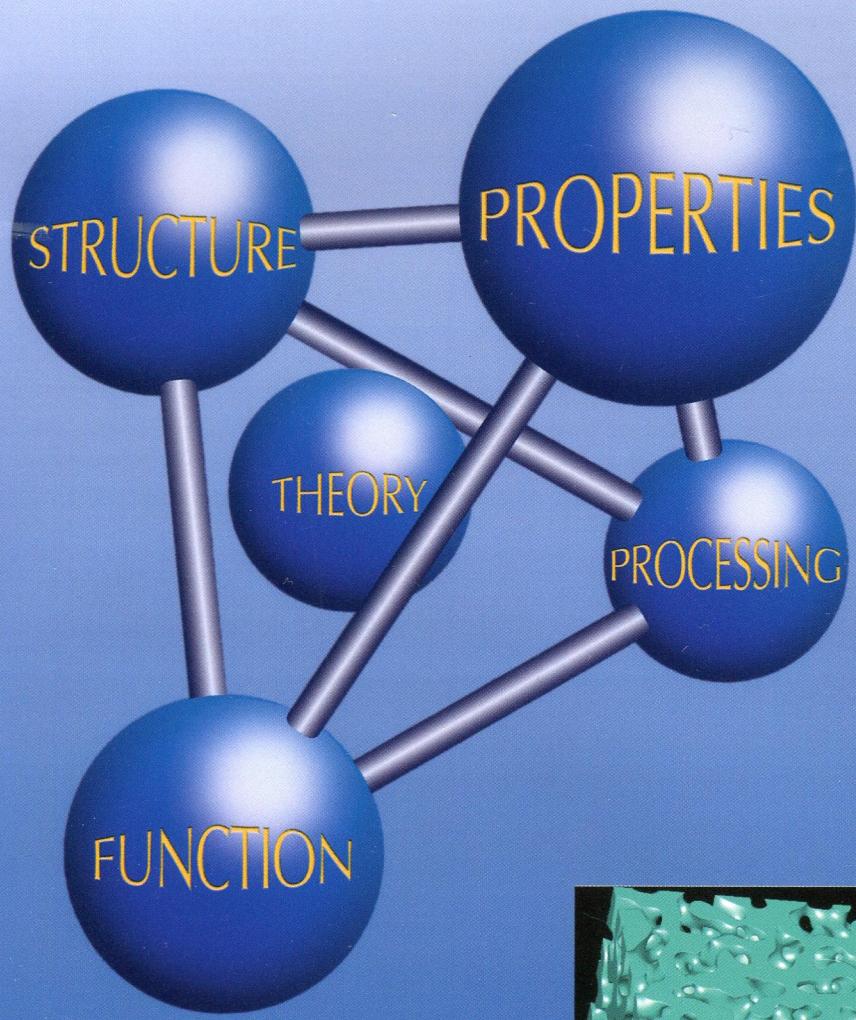


# Acta MATERIALIA





[www.elsevier.com/locate/actamat](http://www.elsevier.com/locate/actamat)

# Acta MATERIALIA

VOLUME 61

PUBLISHED 7 AUGUST 2013

ISSUE 16

S. Mahajan

A. Prasad, L. Yuan, P. D. Lee and D. H. StJohn

Z. Y. Liu, Y. Yang and C. T. Liu

M. E. Cox and D. C. Dunand

P. Sellappan, T. Rouxel, F. Celarie, E. Becker,  
P. Houizot and R. Conradt

A. Levinson, R. K. Mishra, R. D. Doherty and  
S. R. Kalidindi

B. Wang and H. M. Urbassek

P. Dai and Z. Li

Z. B. Jiao, J. H. Luan, Z. W. Zhang, M. K. Miller,  
W. B. Ma and C. T. Liu

R. Shi and Y. Wang

K. Zhu, H. Chen, J.-P. Masse, O. Bouaziz and  
G. Gachet

J. Wang, W. Shu, T. Shimada, T. Kitamura and  
T.-Y. Zhang

5907 2014 Acta Materialia Gold Medal Award

5910 2014 Acta Materialia Materials and Society Award

5913 Recipients of the 2012 Acta Student Awards

5914 The Interdependence model of grain nucleation: A numerical analysis  
of the Nucleation-Free Zone

5928 Yielding and shear banding of metallic glasses

5937 Anisotropic mechanical properties of amorphous Zr-based foams with  
aligned, elongated pores

5949 Composition dependence of indentation deformation and indentation  
cracking in glass

5966 Influence of deformation twinning on static annealing of AZ31 Mg  
alloy

5979 Molecular dynamics study of the  $\alpha$ - $\gamma$  phase transition in Fe induced by  
shear deformation

5988 A plasticity-corrected stress intensity factor for fatigue crack growth in  
ductile materials

5996 Synergistic effects of Cu and Ni on nanoscale precipitation and  
mechanical properties of high-strength steels

6006 Variant selection during  $\alpha$  precipitation in Ti-6Al-4V under the  
influence of local stress – A simulation study

6025 The effect of prior ferrite formation on bainite and martensite  
transformation kinetics in advanced high-strength steels

6037 Role of grain orientation distribution in the ferroelectric and  
ferroelastic domain switching of ferroelectric polycrystals

{continued on inside back cover}

Available online at [www.sciencedirect.com](http://www.sciencedirect.com)

**ScienceDirect**



1359-6454(201309)61:16;1-K

*Acta mater.* is Indexed/Abstracted in: Appl. Mech. Rev.; Res. Alert; Chem. Abstr. Serv.; Curr. Cont./Phys. Chem. Earth Sci.; Curr. Cont./Engng Tech. Appl. Sci.; Ed. Metals Abstr.; Engng Ind.; IBZ & IBR; INSPEC Data.; Metals Abstr.; PASCAL-CNRS Data.; Curr. Cont. Sci. Cit. Ind.; Curr. Cont. SCISEARCH Data.; SSSA/CISA/ECA/ISMEC; MSCI; Also covered in the abstract and citation database Scopus®. Full text available on ScienceDirect®.

ISSN 1359-6454

## [CONTENTS—continued from outside back cover]

- W. D. Liu, H. H. Ruan and L. C. Zhang
- I. Hemmati, R. M. Huizenga, V. Ocelík and J. Th. M. De Hosson
- L.-Y. Shao, J. Canning, T. Wang, K. Cook and H.-Y. Tam
- S. Wenner, K. Nishimura, K. Matsuda, T. Matsuzaki, D. Tomono, F. L. Pratt, C. D. Marioara and R. Holmestad
- Y. F. Shen, Y. D. Wang, X. P. Liu, X. Sun, R. Lin Peng, S. Y. Zhang, L. Zuo and P. K. Liaw
- A.-K. Maier, I. Tkalcec, D. Mari and R. Schaller
- C. J. Armani, M. B. Ruggles-Wrenn, R. S. Hay and G. E. Fair
- J. J. Jonas and C. Ghosh
- D. Raabe, S. Sandlöbes, J. Millán, D. Ponge, H. Assadi, M. Herbig and P.-P. Choi
- B. P. Somerday, P. Sofronis, K. A. Nibur, C. San Marchi and R. Kirchheim
- M. Seita, R. Schäublin, M. Döbeli and R. Spolenak
- G. Monnet, L. Vincent and B. Devincre
- R. Santamarta, R. Arróyave, J. Pons, A. Evirgen, I. Karaman, H. E. Karaca and R. D. Noebe
- S. M. Dubiel and J. Żukrowski
- L. Qiao and R. Radovitzky
- M. Bambach
- P. D. Ispánovity, Á. Hegyi, I. Groma, G. Györgyi, K. Ratter and D. Weygand
- E. Meslin, B. Radiguet and M. Loyer-Prost
- R. Daniel, J. Keckes, I. Matko, M. Burghammer and C. Mitterer
- S. Janudom, J. Wannasin, J. Basem and S. Wisutmethangoon
- M. Mostafavi, N. Baimpas, E. Tarleton, R. C. Atwood, S. A. McDonald, A. M. Korsunsky and T. J. Marrow
- 6050 Atomic rearrangements in metallic glass: Their nucleation and self-organization
- 6061 Microstructural design of hardfacing Ni–Cr–B–Si–C alloys
- 6071 Viscosity of silica optical fibres characterized using regenerated gratings
- 6082 Muon kinetics in heat treated Al (–Mg)(–Si) alloys
- 6093 Deformation mechanisms of a 20Mn TWIP steel investigated by in situ neutron diffraction and TEM
- 6107 New In–Pd mechanical loss peak in ternary gold alloys
- 6114 Creep and microstructure of Nextel™ 720 fiber at elevated temperature in air and in steam
- 6125 Role of mechanical activation in the dynamic transformation of austenite
- 6132 Segregation engineering enables nanoscale martensite to austenite phase transformation at grain boundaries: A pathway to ductile martensite
- 6153 Elucidating the variables affecting accelerated fatigue crack growth of steels in hydrogen gas with low oxygen concentrations
- 6171 Selective ion-induced grain growth: Thermal spike modeling and its experimental validation
- 6178 Dislocation-dynamics based crystal plasticity law for the low- and high-temperature deformation regimes of bcc crystal
- 6191 TEM study of structural and microstructural characteristics of a precipitate phase in Ni-rich Ni–Ti–Hf and Ni–Ti–Zr shape memory alloys
- 6207 Phase-decomposition-related short-range ordering in an Fe–Cr alloy
- 6213 Investigation of the role of Ti oxide layer in the size-dependent superelasticity of NiTi pillars: Modeling and simulation
- 6222 Implications from the Poliak–Jonas criterion for the construction of flow stress models incorporating dynamic recrystallization
- 6234 Average yielding and weakest link statistics in micron-scale plasticity
- 6246 Radiation-induced precipitation in a ferritic model alloy: An experimental and theoretical study
- 6255 Origins of microstructure and stress gradients in nanocrystalline thin films: The role of growth parameters and self-organization
- 6267 Characterization of flow behavior of semi-solid slurries containing low solid fractions in high-pressure die casting
- 6276 Three-dimensional crack observation, quantification and simulation in a quasi-brittle material

[CONTENTS—continued from inside back cover]

- V. Esposito, D. W. Ni, Z. He, W. Zhang, A. S. Prasad, 6290 Enhanced mass diffusion phenomena in highly defective doped ceria  
J. A. Glasscock, C. Chatzichristodoulou,  
S. Ramousse and A. Kaiser
- R. N. Viswanath and J. Weissmüller 6301 Electrocapillary coupling coefficients for hydrogen electrosorption on palladium
- T. Kondo, T. Imaoka, H. Hirakata, M. Sakihara and 6310 Effects of stress ratio on fatigue crack propagation properties of  
K. Minoshima submicron-thick free-standing copper films