

PLU  
j80/pcm

ISSN 0953-8984

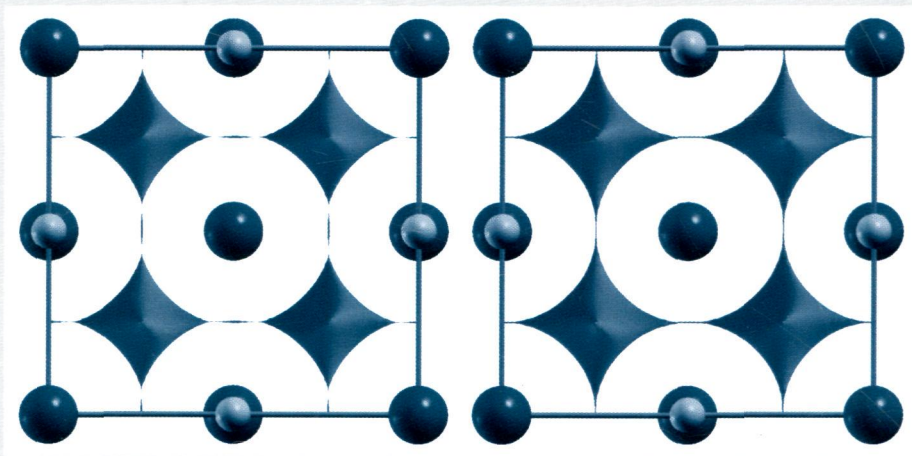
# Journal of Physics

## Condensed Matter

Volume 26 Number 3 22 January 2014

### Featured in this issue

Liquids, Soft Matter and Biological Physics



[iopscience.org/jpcm](http://iopscience.org/jpcm)

**IOP** Publishing

# Journal of Physics

Condensed Matter

Volume 26 Number 3 22 January 2014

## LIQUIDS, SOFT MATTER AND BIOLOGICAL PHYSICS PAPERS

- 035101** The influence of van der Waals forces on droplet morphological transitions and solvation forces in nanochannels  
F Dutka and M Napiórkowski
- 035102** Observation of adsorption versus depletion interaction for charged silica nanoparticles in the presence of non-ionic surfactant  
D Ray and V K Aswal
- 035103** Phase transition in dimer liquids  
Danh-Tai Hoang and H T Diep
- 035104** X-ray absorption spectroscopy of GeO<sub>2</sub> glass to 64 GPa  
Xinguo Hong, Matthew Newville, Thomas S Duffy, Stephen R Sutton and Mark L Rivers
- 035105** Thermodiffusion in binary liquids: the role of irreversibility  
Alois Würger

## PAPERS

### NANOSTRUCTURES AND NANOELECTRONICS

- 035301** Complex band structure eigenvalue method adapted to Floquet systems: topological superconducting wires as a case study  
Andres A Reynoso and Diego Frustaglia
- 035302** Quasi-one-dimensional electronic states induced by an extended line defect in graphene: an analytic solution  
Xiaoling Lü, Liwei Jiang and Yisong Zheng
- 035303** Electronic properties of site-controlled (111)-oriented zinc-blende InGaAs/GaAs quantum dots calculated using a symmetry-adapted  $\mathbf{k} \cdot \mathbf{p}$  Hamiltonian  
O Marquardt, E P O'Reilly and S Schulz

### SOLID STRUCTURE AND LATTICE DYNAMICS

- 035401** First-principles study of the lattice dynamical properties of strontium ruthenate  
Naihua Miao, Nicholas C Bristowe, Bin Xu, Matthieu J Verstraete and Philippe Ghosez
- 035402** An adaptive genetic algorithm for crystal structure prediction  
S Q Wu, M Ji, C Z Wang, M C Nguyen, X Zhao, K Umemoto, R M Wentzcovitch and K M Ho
- 035403** Structural, vibrational, elastic and topological properties of PaN under pressure  
P Modak, Ashok K Verma, A Svane, N E Christensen and Surinder M Sharma
- 035404** An optimized interatomic potential for Cu–Ni alloys with the embedded-atom method  
Berk Onat and Sondan Durukanoglu

### ELECTRONIC STRUCTURE

- 035501** Photochromic charge transfer processes in natural pink and brown diamonds  
K S Byrne, J G Chapman and A N Luiten

### CORRELATED ELECTRONS

- 035601** The Rényi entanglement entropy of a general quantum dimer model at the RK point: a highly efficient algorithm  
Jiquan Pei, Steve Han, Haijun Liao and Tao Li

*(Continued on inside back cover)*

- 035602 Mesoscopic features in the transport properties of a Kondo-correlated quantum dot in a magnetic field**  
Alberto Camjayi and Liliana Arrachea
- SUPERCONDUCTORS AND METALS**
- 035701 Thermal avalanches near a Mott transition**  
J C Lashley, K Gofryk, B Mihaila, J L Smith and E K H Salje
- 035702 Angle-resolved photoemission spectroscopy observation of anomalous electronic states in  $\text{EuFe}_2\text{As}_{2-x}\text{P}_x$**   
P Richard, C Capan, J Ma, P Zhang, N Xu, T Qian, J D Denlinger, G-F Chen, A S Sefat, Z Fisk and H Ding
- MAGNETISM AND MAGNETIC MATERIALS**
- 036001 Weak itinerant antiferromagnetism in  $\text{PuIn}_3$  explored using  $^{115}\text{In}$  nuclear quadrupole resonance**  
H Chudo, G Koutroulakis, H Yasuoka, E D Bauer, P H Tobash, J N Mitchell and J D Thompson
- 036002 Investigating the magnetic field-dependent conductivity in magnetite thin films by modelling the magnetorefractive effect**  
Chris S Kelley, James Naughton, Emma Benson, Ruth C Bradley, Vlado K Lazarov, Sarah M Thompson and Jim A D Matthew
- 036003 Interpretation of magnetoelectric phase states using the praphase concept and exchange symmetry**  
N V Ter-Oganessian and V P Sakhnenko
- 036004 Ground-state and spin-wave dynamics in Brownmillerite  $\text{SrCoO}_{2.5}$ —a combined hybrid functional and LSDA +  $U$  study**  
Chandrima Mitra, Randy S Fishman, Satoshi Okamoto, Ho Nyung Lee and Fernando A Reboredo