

Journal of Physics

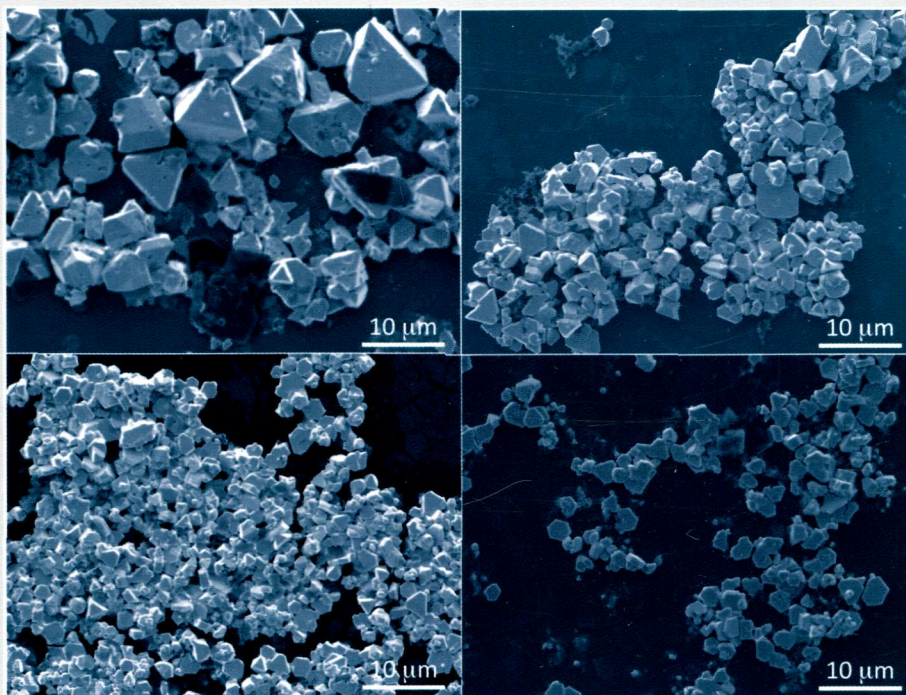
Condensed Matter

Volume 25 Number 33 21 August 2013

Topical Review

**Advances in first-principles modelling of point defects in UO_2 :
f electron correlations and the issue of local energy minima**

B Dorado, M Freyss, B Amadon, M Bertolus, G Jomard and P Garcia



VIEWPOINT

- 331001 **Flexoelectric spectroscopy**
J F Scott

TOPICAL REVIEW

- 333201 **Advances in first-principles modelling of point defects in UO_2 : f electron correlations and the issue of local energy minima**
B Dorado, M Freyss, B Amadon, M Bertolus, G Jomard and P Garcia

PAPERS

NANOSTRUCTURES AND NANOELECTRONICS

- 335301 **Transport in semiconductor nanowire superlattices described by coupled quantum mechanical and kinetic models**
M Alvaro, L L Bonilla, M Carretero, R V N Melnik and S Prabhakar
- 335302 **Electronic properties of supracrystals of Au nanocrystals: influence of thickness and nanocrystallinity**
P Yang, I Arfaoui, T Cren, N Goubet and M P Pileni

SOLID STRUCTURE AND LATTICE DYNAMICS

- 335401 **Structural and magnetic studies of the electron doped manganites $\text{Sr}_{0.65}\text{Pr}_{0.35-x}\text{Ce}_x\text{MnO}_3$ ($0.00 \leq x \leq 0.35$)**
S  verine Heyraud, Peter E R Blanchard, Samuel Liu, Qingdi Zhou, Brendan J Kennedy, Helen E A Brand, Anton Tadich and James R Hester
- 335402 **Impact of the volume change on the ageing effects in Cu–Al–Ni martensite: experiment and theory**
Anna Kosogor, Dezhen Xue, Yumei Zhou, Xiangdong Ding, Kazuhiro Otsuka, Victor A L'vov, Jun Sun and Xiaobing Ren

ELECTRONIC STRUCTURE

- 335501 **Stability, elastic properties and fracture toughness of $\text{Al}_{0.75}\text{X}_{0.75}\text{B}_{14}$ (X=Sc, Ti, V, Cr, Y, Zr, Nb, Mo) investigated using *ab initio* calculations**
Jens Emmerlich, Niklas Thieme, Moritz to Baben, Denis Music and Jochen M Schneider
- 335502 **Oxygen deficient centers in silica: optical properties within many-body perturbation theory**
N Richard, L Martin-Samos, S Girard, A Ruini, A Boukenter, Y Ouerdane and J-P Meunier
- 335503 **Topological phase transition induced by spin–orbit coupling in bilayer graphene**
Lei Xu, Yuan Zhou and Chang-De Gong

CORRELATED ELECTRONS

- 335601 **The *k*-space origins of scattering in $\text{Bi}_2\text{Sr}_2\text{CaCu}_2\text{O}_{8+x}$**
Jacob W Alldredge, Eduardo M Calleja, Jixia Dai, H Eisaki, S Uchida and Kyle McElroy
- 335602 **Magnons as pseudo-Goldstones in La-based cuprates: the effects of doping**
M Fidrysiak and P Rusek

SUPERCONDUCTORS AND METALS

- 335701 **Enhancement of phase separation and superconductivity in Mn-doped $\text{K}_{0.8}\text{Fe}_{2-y}\text{Mn}_y\text{Se}_2$ crystals**
M T Li, L Chen, Z W Li, G H Ryu, C T Lin and J C Zhang
- 335702 **Superconducting anisotropy in $(\text{CaCuO}_2)_n/(\text{SrTiO}_3)_m$ superlattices**
M Salvato, I Ottaviani, M Lucci, M Cirillo, D Di Castro, D Innocenti, A Tebano and G Balestrino

(Continued on inside back cover)

SEMICONDUCTORS

- 335801** Charge density mapping of strongly-correlated few-electron two-dimensional quantum dots by the scanning probe technique
E Wach, D P Żebrowski and B Szafran
- 335802** Binding energy of hydrogenic impurities in quantum dots under intense laser radiation
C González-Santander, T Apostolova and F Domínguez-Adame
- 335803** The convergence of longitudinal excitons onto the Γ_5 transverse exciton in GaN and the thermal activation energy of longitudinal excitons
Amal Elgawadi, Gordon Gainer and Jerzy Krasinski
- 335804** Magnetic resonance identification of hydrogen at a zinc vacancy in ZnO
Nguyen Tien Son, Junichi Isoya, Ivan G Ivanov, Takeshi Ohshima and Erik Janzén

MAGNETISM AND MAGNETIC MATERIALS

- 336001** Common features of low-temperature spin–charge separation and superlattice formation in multiferroic manganites and antiferromagnetic cuprates
V A Sanina, E I Golovenchits, V G Zaleskii and B Kh Khannanov
- 336002** Soft magnonic modes in two-dimensional permalloy antidot lattices
Roberto Zivieri, Perla Malagò, Loris Giovannini, Silvia Tacchi, Gianluca Gubbiotti and Adekunle Olusola Adeyeye
- 336003** $\text{PbCu}_3\text{TeO}_7$: an $S = \frac{1}{2}$ staircase kagome lattice with significant intra-plane and inter-plane couplings
B Koteswararao, R Kumar, Jayita Chakraborty, Byung-Gu Jeon, A V Mahajan, I Dasgupta, Kee Hoon Kim and F C Chou

ERRATA

- 339601** Erratum: Evidence for fully gapped strong coupling s-wave superconductivity in $\text{Bi}_4\text{O}_4\text{S}_3$
Shruti, P Srivastava and S Patnaik
- 339602** Erratum: Energy levels of interacting curved nanomagnets in a frustrated geometry: increasing accuracy when using finite difference methods
H Riahi, F Montaigne, N Rougemaille, B Canals, D Lacour and M Hehn