

Journal of Physics

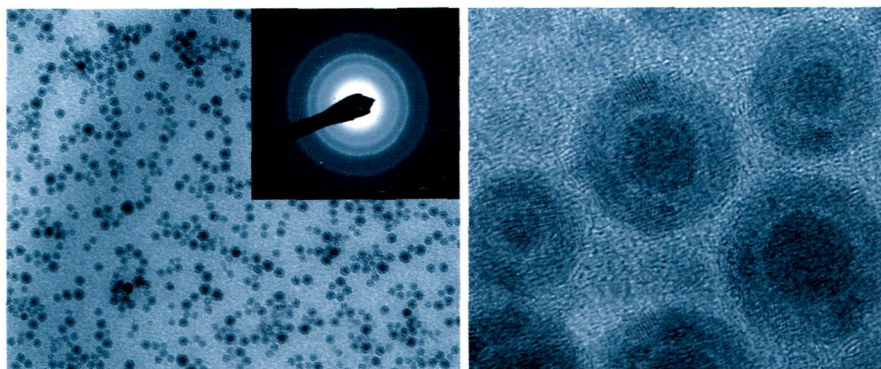
Condensed Matter

Volume 25 Number 42 23 October 2013

Topical Review

Properties and applications of chemically functionalized graphene

M F Craciun, I Khrapach, M D Barnes and S Russo



FAST TRACK COMMUNICATIONS

- 422201 Enhancement of superconductivity near the pressure-induced semiconductor–metal transition in the BiS₂-based superconductors LnO_{0.5}F_{0.5}BiS₂ (Ln = La, Ce, Pr, Nd)**
C T Wolowiec, B D White, I Jeon, D Yazici, K Huang and M B Maple
- 422202 Locking of iridium magnetic moments to the correlated rotation of oxygen octahedra in Sr₂IrO₄ revealed by x-ray resonant scattering**
S Boseggia, H C Walker, J Vale, R Springell, Z Feng, R S Perry, M Moretti Sala, H M Rønnow, S P Collins and D F McMorrow

TOPICAL REVIEW

- 423201 Properties and applications of chemically functionalized graphene**
M F Craciun, I Khrapach, M D Barnes and S Russo

PAPERS

NANOSTRUCTURES AND NANOELECTRONICS

- 425301 Implementation of non-equilibrium vertex corrections in KKR: transport through disordered layers**
Christian Franz, Michael Czerner and Christian Heiliger
- 425302 Dielectric polarization, anisotropy and nonradiative energy transfer into nanometre-scale thin semiconducting films**
J M Gordon and Yu N Gartstein

SOLID STRUCTURE AND LATTICE DYNAMICS

- 425401 Thermodynamic modeling of chromium: strong and weak magnetic coupling**
F Körmann, B Grabowski, P Söderlind, M Palumbo, S G Fries, T Hickel and J Neugebauer
- 425402 The effect of antiphase boundaries on the elastic properties of Ni–Mn–Ga austenite and premartensite**
Hanuš Seiner, Petr Sedlák, Lucie Bodnárová, Jan Drahoukoupil, Vít Kopecký, Jaromír Kopeček, Michal Landa and Oleg Heczko

ELECTRONIC STRUCTURE

- 425501 Time evolution of luminescence of Sr₂SiO₄:Eu²⁺**
J Barzowska, K Szczodrowski, M Grinberg, S Mahlík, K Anders, R Pyramidowicz and Y Zorenko
- 425502 First-principle calculations on the structural stability and electronic properties of superhard B_xC_y compounds**
M M Li, Xiaofeng Fan and W T Zheng

CORRELATED ELECTRONS

- 425601 Probing quantum discord in a Heisenberg dimer compound**
Tanmoy Chakraborty, Harkirat Singh, Sourabh Singh, Radha Krishna Gopal and Chiranjib Mitra
- 425602 A smooth polaron–molecule crossover in a Fermi system**
D M Edwards
- 425603 Conductivity oscillation of surface state of three-dimensional topological insulators induced by a linearly polarized terahertz field**
J M Shao, H Li and G W Yang
- 425604 Electron–hole pair condensation and Coulomb drag effect in a graphene double layer**
Chuangyi Zhang and Guojun Jin

(Continued on inside back cover)

SUPERCONDUCTORS AND METALS

- 425701** **Absence of strong magnetic fluctuations in FeP-based systems LaFePO and Sr₂ScO₃FeP**
A E Taylor, R A Ewings, T G Perring, D R Parker, J Ollivier, S J Clarke and A T Boothroyd
- 425702** **Time-reversal-symmetry-broken state in the BCS formalism for a multi-band superconductor**
Brendan J Wilson and Mukunda P Das
- 425703** **Stabilization mechanism of γ -Mg₁₇Al₁₂ and β -Mg₂Al₃ complex metallic alloys**
S Vrtnik, S Jazbec, M Jagodič, A Korelec, L Hosnar, Z Jagličić, P Jeglič, M Feuerbacher, U Mizutani and J Dolinšek
- 425704** **Dispersive x-ray absorption studies at the Fe K-edge on the iron chalcogenide superconductor FeSe under pressure**
M Bendele, C Marini, B Joseph, L Simonelli, P Dore, S Pascarelli, M Chikovani, E Pomjakushina, K Conder, N L Saini and P Postorino

SEMICONDUCTORS

- 425801** **Elastic and vibrational properties of group IV semiconductors in empirical potential modelling**
U Monteverde, M A Migliorato, J Pal and D Powell

DIELECTRICS AND FERROELECTRICS

- 425901** **Phase diagram and piezoelectric response of (Ba_{1-x}Ca_x)(Zr_{0.1}Ti_{0.9})O₃ solid solution**
Desheng Fu, Yuto Kamai, Naonori Sakamoto, Naoki Wakiya, Hisao Suzuki and Mitsuru Itoh

MAGNETISM AND MAGNETIC MATERIALS

- 426001** **Magnetic interactions in exchange-coupled yet unbiased IrMn/NiCu bilayers**
R Cicheler, A Harres, K D Sossmeier, J E Schmidt and J Geshev
- 426002** **Large negative thermal expansion of the Co subnetwork measured by EXAFS in highly disordered Nd_{1-x}Co_x thin films with perpendicular magnetic anisotropy**
J Díaz, R Cid, A Hierro, L M Álvarez-Prado, C Quirós and J M Alameda
- 426003** **Magnetic entropy change in core/shell and hollow nanoparticles**
Sayan Chandra, Anis Biswas, Hafsa Khurshid, Wanfeng Li, G C Hadjipanayis and Hariharan Srikanth
- 426004** **Ferromagnetism and re-entrant spin-glass transition in quasicrystal approximants Au-SM-Gd (SM = Si, Ge)**
T Hiroto, G H Gebresenbut, C Pay Gómez, Y Muro, M Isobe, Y Ueda, K Tokiwa and R Tamura
- 426005** **DC magnetic susceptibility and neutron powder diffraction analysis of the perovskite-type compounds LaYbO₃ and LaHoO₃**
A Martinelli, R Masini, C Artini, G A Costa and L Keller

CORRIGENDUM

- 429501** **Corrigendum: The influence of phosphorus content on magnetic anisotropy in ferromagnetic (Ga, Mn)(As, P)/GaAs thin films**
M Yahyaoui, K Boujdaria, M Cubukcu, C Testelin and C Gourdon