

TCM PUBLICATIONS 2011

- A.A. ABRIKOSOV, A.F. ANDREEV, S.A. BRAZOVSKII, L.P. GORKOV, E.I. KATS, P.S. KONDRATEKO, S.P. OBUKHOV, L.P. PITAEVSKII, L.A. PROZOROVA, I.M. KHALTNIKOV, D.E. KHMELNITSKII and G.M. ELIASHBERG “Igor Ekhtievich Dzyaloshinskii (on his 80th birthday)” *Physics-Uspekhi* **54**, 221 (2011)
- P. BENETATOS and E. TARENTJEV “Constrained random-force model for weakly bending semiflexible polymers” *Phys. Rev. E* **84**, 022801 (2011)
- B. BERI AND N.R. COOPER “Local tensor network for strongly correlated projective states” *Phys. Rev. Letters* **106**, 156401 (2011)
[DOI:10.1103/PhysRevLett.106.156401]
- M.J. BHASEEN, S. EJIMA, M. HOHENADLER, A.O. SILVER, F.H.K. ESSLER, H. FEHSKE and B.D. SIMONS “Magnetic properties of the second Mott lobe in pairing Hamiltonians” *Phys. Rev. A* in press (2011)
- S.M. BRADY, L. ZHANG, M. MEGRAW, N.J. MARTINEZ, E. JIANG, C.S. YI, W. LIU, A. ZENG, M. TAYLOR-TEEPLES, D. KIM, S.E. AHNERT, et al “A stele-enriched gene regulatory network in the Arabidopsis root” *Molecular Systems Biology* **7**, 459 (2011)
- R.T. BRIERLEY, P.B. LITTLEWOOD and P.R. EASTHAM “ Amplitude-mode dynamics of polariton condensates” *Phys. Rev. Letters* **107**, 040401 (2011) [DOI: 10.1103/PhysRevLett.107.040401]
- N.C. BRISTOWE, P.B. LITTLEWOOD and E. ARTACHO “Surface defects and conduction in polar oxide heterostructures” *Phys. Rev. B* **83**, 205405 (2011) [DOI: 10.1103/PhysRevB.83.205405]
- N.C. BRISTOWE, P.B. LITTLEWOOD and E. ARTACHO “The net charge at interfaces between insulators” *J. Phys. Condens. Matter* **23**, 081001 (2011) [DOI: 10.1088/0953-8984/23/8/081001]
- N.C. BRISTOWE, M. STENGEL, P.B. LITTLEWOOD, J.M. PRUNEDA and E. ARTACHO arXiv:1108.2208v1, (2011)
- D.J. COLE, P.K. ANG and K.P. LOH “Ion Adsorption at the Graphene/Electrolyte Interface” *J. Phys. Chem. Letters* **2**, 1799 (2011)
- D.J. COLE, E. RAJENDRA, M. ROBERTS-THOMSON, B. HARDWICK, G.J. MCKENZIE, M.C. PAYNE, A.R. VENKTARAMAN and C.-K. SKYLARIS “Interrogation of the Protein-Protein Interactions between JHuman BRCA2 BRC Repeats and RAD51 Reveals Atomistic Determinants of Affinity” *PLoS Computational Biology* **7**, e1002096 (2011)
- N. COOPER “Optical Flux Lattices for Ultracold Atomic Gases” *Phys. Rev. Letters* **106**, 175301 (2011) [DOI: 10.1103/PhysRevLett.106.175301]

- N.D. DRUMMOND, N.R. COOPER, R.J. NEEDS and G.V. SHLYAPNIKOV
“Quantum Monte Carlo calculation of the zero-temperature phase diagram of the two-component fermionic hard-core gas in two dimensions” *Phys. Rev. B* **83**, 195429 (2011) [DOI: 10.1103/PhysRevB.83.195429]
- J. M. EDGE and N.R. COOPER “Probing ultracold Fermi gases with light-induced gauge potentials” *Phys. Rev. A* **83**, 053619 (2011) [DOI: 10.1103/PhysRevA.83.053619]
- S. EJIMA, M. J. BHASEEN, M. HOHENADLER, F.H.L. ESSLER, H. FEHSKE and B.D. SIMONS “Ising deconfinement transition between Feshbach resonant superfluids” *Phys. Rev. Letters* **106**, 015303 (2011)
- F.L.A.F. GOMES, G. ZHANG, F. CARBONELL, J.A. CORREA, W.A. HARRIS, B.D. SIMONS and M. CAYOUILLE “Development **138**, 227-235 (2011)
- T. HISCOCK, M. WARNER and P. PALFFY-MUHORAY “Solar to electrical conversion via liquid crystal elastomers” *J. Appl. Phys.* **109**, 104506 (2011) [DOI: 10.1063/1.3581134]
- D.J. HUGGINS, A.R. VENKITARAMAN and D.R. SPRING “Rational Methods for the Selection of Diverse Screening Compounds” *ACS Chem. Biol.* **6(3)**, 208 (2011) [DOI: 10.1021/cb100420r]
- S.T. JOHN, Z. HADZIBABIC and N.R. COOPER “A Spectroscopic Method to Measure the Superfluid Fraction of an Ultracold Atomic Gas” *Phys. Rev. A* **83**, 023610 (2011) [DOI: 10.1103/PhysRevA.83.023610]
- G. JOHNSTON, S.E. AHNERT, J.P.K. DOYE and A.A. LOUIS “Evolutionary dynamics in a simple model of self-assembly” *Phys. Rev. E* **83**, (2011)
- M. KIBALCHENKO, J.R. YATES, C. MASSOBRIO and A. PASQUARELLO
“Structural composition of first-neighbor shells in GeSe₂ and GeSe₄ glasses from a first-principles analysis of NMR chemical shifts” *J. Phys. Chem. C* **115**, (2011) 7755-7759 (2011) [DOI: 10.1021/jp201345e]
- M. KIBALCHENKO, M.C. PAYNE and J.R. YATES “Magnetic response of single-walled carbon nanotubes induced by an external magnetic field” *ACS Nano* **5**, 537-545 (2011) [DOI 10.1021/nn102590b]
- M. KIEMES, P. BENETATOS and A. ZIPPELIUS “Orientational order and glassy states in networks of semiflexible polymers” *Phys. Rev. E* **83**, 021905 (2011)
- Y. KITA, R. MAEZONO, M. TACHIKAWA, M.D. TOWLER and R.J. NEEDS “Ab initio quantum Monte Carlo study of the binding of a positron to alkali-metal hydrides” *J. Chem Phys.* **135**, 054108 (2011)
- A.M. KLEIN and B.D. SIMONS “Universal patterns of stem cell fate in cycling adult tissues” *Development* **138**, 3103-3111 (2011) [DOI: 1242/dev.060103]
- A.M. KLEIN, V. NIKOAIIDOU-NEOKOSMIDOU, D.P. DOUPE, P.H. JONES and B.D. SIMONS “Patterning as a signature of human epidermal stem cell regulation” *J. of the Royal Society, Interface/the Royal Society* (2011) [DOI: 10.1098/rsif.2011.0240]
- M. KRISCH, D. FARBER, R. XU, D. ANTONANGELI, C. ARACNE, A. BERAUD,

- T.-C. CHIANG, D.Y. KIM, E. ISAEV, R. AHUJA and B. JOHANSSON “Phonons of the anomalous element cerium” *Proc. Natl Acad. Sci. USA* **108**, 9342-9345 (2011)
- D.K.K. LEE, P.R. EASTHAM and N.R. COOPER “Breakdown of counterflow superfluidity in a disordered quantum Hall bilayer” *Advances in Condens. Matt. Phys.* **2011**, 792125 (2011) [DOI:10.1155/2011/792125]
- R.M. LEE, G.J. CONDUIT, N. NEMEC, P. LOPEZ RIOS and N.D. DRUMMOND “Strategies for improving the efficiency of quantum Monte Carlo calculations” *Phys. Rev. E* **83**, 066706 (2011)
- R.M. LEE and N.D. DRUMMOND “Ground state properties of the one-dimensional electron liquid” *Phys. Rev. B* **83**, 245114 (2011)
- J. LEVINSEN, N.R. COOPER and G.V. SHLYAPNIKOV “Topological p_x+ip_y Superfluid Phase of Fermionic Polar Molecules” *Phys. Rev. A* **84**, 013603 (2011) [DOI:10.1103/PhysRevA.84.013603]
- J. LEVINSEN and D.S. PETROV “Atom-dimer and dimer-dimer scattering in fermionic mixtures near a narrow Feshbach resonance” *Eur. Phys. Journal D* (2011) [DOI: 10.1140/epjd/e2011-20071-x]
- A. LHERBIER, S.M.-M. DUBOIS, X. DECLERCK, S. ROCHE, Y.-M. NIQUET and J.-C. CHARLIER “Two-dimensional graphene with structural defects: Elastic mean free path, minimum conductivity, and anderson transition” *Phys. Rev. Letters* **106**, 046803 (2011) [DOI: 10.1103/PhysRevLett.106.046803]
- C.D. MODES, K. BHATTACHARYA and M. WARNER “Gaussian curvature from elastica sheets” *Proc. Roy. Soc. A* **467** 1121 (2011) [DOI: 10.1098/rspa.2010.0352]
- G. MOLLER, N.R. COOPER and V. GURARIE “Structure and consequences of vortex-core states in p-wave superfluids” *Phys. Rev. B* **83**, 014513 (2011) [DOI: 10.1103/PhysRevB.83.014513]
- G. MOLLER and S.H. SIMON “Trial wavefunctions for the Goldstone mode in $\nu=1/2+1/2$ quantum Hall bilayers” *Advances in Condens. Matt. Phys.* **2011**, 815169 (2011)
- G. MOLLER A WOJS and N.R. COOPER “Neutral Fermion Excitations in the Moore-Read state at $\nu=5/2$ ” *Phys. Rev. Letters* **107**, 036803 (2011) [DOI: 10.1103/PhysRevLett.107.036803]
- D.D. O'REGAN, M.C. PAYNE and A.A. MOSTOFI “Subspace representations in ab initio methods for strongly correlated systems” *Phys. Rev. B* **83**, 245124 (2011)
- C.J. PICKARD and R.J. NEEDS “Ab initio random structure searching” *J. Phys. Condens. Matter* **23**, 053201 (2011). [DOI: 10.1088/0953-8984/23/5/053201]
- C.J. PICKARD and R.J. NEEDS “Predicted pressure-induced s-band ferromagnetism in alkali metals” *Phys. Rev. Letters* **107**, 087201 (2011)
- H.M. PRICE and N.R. COOPER “Skyrmion-antiSkyrmion pairs in Ultracold Atomic Gases” *Phys. Rev. A* **83**, 061605 (2011) [DOI:10.1103/PhysRevA.83.061605]

- S. RADESCU, A MUJICA, J. LOPEZ-SOLANO and R.J. NEEDS “Theoretical study of pressure-driven phase transitions in HgSe and HgTe” *Phys. Rev. B* **83**, 094107 (2011)
- K. SADEGZADEH, G.M. BRUUN, C. LOBO, P. MASSIGNAN and A. RECATI “metastability in spin-polarized Fermi gases and quasiparticle decays” *New J. Phys.* **13**, 055011 (2011)
- P. SETH, P. LOPEZ-RIOS and R.J. NEEDS “Quantum Monte Carlo study of the first-row atoms and ions” *J. Chem. Phys.* **134**, 084105 (2011) [DOI: 10.1063/1.3554625]
- B.D. SIMONS and H. CLEVERS “Stem cell self-renewal in intestinal crypt” *Experimental Cell Research*, in press (2011)
- B.D. SIMONS and H. CLEVERS “Strategies of stem cell self-renewal in adult tissues” *Cell* **145**, 851-862 (2011)
- J. SUN, D.D. KLUG, C.J. PICKARD and R.J. NEEDS “Controlling the bonding and band gaps of solid carbon monoxide with pressure” *Phys. Rev. Letters* **106**, 145502 (2011) [DOI: 10.1103/PhysRevLett.106.145502]
- J. VAN WEZEL, P. NAHAI-WILLIAMSON and S.S. SAXENA “Exciton-phonon interactions and superconductivity bordering charge order in TiSe_2 ” *Phys. Rev. B* **83**, 024502 (2011) [DOI: 10.1103/PhysRevB.83.024502]
- Z. WAKS, A.M. KLEIN and P.A. SILVER “Cell-to-cell variability of alternative RNA splicing” *Molecular systems biology* **7**, 506 (2011) [DOI: 10.1038/msb.2011.32]
- A. WOJS, G. MOLLER and N.R. COOPER “Composite fermion dynamics in half-filled Landau levels of grapheme” *Acta Physica Polonica A* **119**, 592 (2011)
- W. XU, C. WEBER and G. KOTLIAR “High-frequency thermoelectric response in correlated electronic systems” *Phys. Rev. B* **84**, 035114 (2011)