

## Publications of Rajdeep Sensarma

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### REVIEW ARTICLES

1. Projected Wavefunctions and High Tc Superconductivity in Doped Mott Insulators  
M. Randeria, **R. Sensarma** and N. Trivedi  
in *Theoretical Methods for Strongly Correlated Systems* edited by F. Manchini and A. Avella, Springer Series in Solid State Sciences (2012). ISBN V 978-3-642-21830-9.

### JOURNAL PUBLICATIONS

1. Quantum Dynamics of Disordered Bosons in an Optical Lattice  
C. H. Lin, **R. Sensarma**, K. Sengupta and S. Das Sarma  
Phys. Rev. B **86**, 214207 (2012)
2. Density Fluctuation Effects on the Excitonic Condensate in Double-layer Graphene  
D. S. L. Abergel, **R. Sensarma** and S. Das Sarma  
Phys. Rev. B **86**, 161412 (2012)
3. Coulomb Drag in Monolayer and Bilayer Graphene  
E. H. Hwang, **R. Sensarma** and S. Das Sarma  
Phys. Rev. B **84**, 245441 (2011)
4. Instabilities of Bosonic Spin Currents in Optical Lattices  
H. Hui, R. Barnett, **R. Sensarma**, and S. Das Sarma  
Phys. Rev. A **84**, 043615 (2011).
5. Relaxation of Fermionic Excitations in a Strongly Attractive Fermi Gas in an Optical Lattice  
**R. Sensarma**, D. Pekker, A. M. Rey, M. Lukin, and E. Demler.  
Phys. Rev. Lett. **107**, 145303 (2011)
6. Correlations, Plasmarons, and Quantum Spectral Function in Bilayer Graphene  
**R. Sensarma**, E. H. Hwang, and S. Das Sarma  
Phys. Rev. B **84**, 041408(R) (2011)
7. Three Projected Wave-Functions for a High-Temperature Superconductor  
**R. Sensarma**, and V. Galitski  
Phys. Rev. B **84**, 060503(R) (2011)
8. Momentum Resolved Optical Lattice Modulation Spectroscopy for Bosons in Optical Lattices  
**R. Sensarma**, K. Sengupta, and S. Das Sarma  
Phys. Rev. B **84**, 081101(R) (2011)
9. Bogoliubov Theory of Interacting Bosons on a Lattice in a Synthetic Magnetic Field  
S. Powell, R. Barnett, **R. Sensarma**, and S. Das Sarma  
Phys. Rev. A **83**, 013612 (2011)

10. Competition between Pairing and Ferromagnetic Instabilities in Ultracold Fermi Gases near Feshbach Resonances  
D. Pekker, M. Babadi, **R. Sensarma**, N. Zinner, L. Pollet, M. W. Zwierlein, and E. Demler  
Phys. Rev. Lett. **106**, 050402 (2011)
11. Chiral Rashba Spin Textures in Ultracold Fermi Gases  
J. D. Sau, **R. Sensarma**, S. Powell, I. B. Spielman, and S. Das Sarma  
Phys. Rev. B **83**, 140510(R) (2011)
12. Plasmon-phonon Coupling in Graphene  
E. H. Hwang, **R. Sensarma**, and S. Das Sarma  
Phys. Rev. B **82**, 195406 (2010)
13. Dynamic Screening and Low Energy Collective Modes in Bilayer Graphene  
**R. Sensarma**, E. H. Hwang, S. Das Sarma  
Phys. Rev. B **82**, 195428 (2010)
14. Lifetime of Double Occupancies in the Fermi-Hubbard Model  
**R. Sensarma**, D. Pekker, E. Altman, E. Demler, N. Strohmaier, D. Greif, R. Jördens, L. Tarruell, H. Moritz, and T. Esslinger  
Phys. Rev. B **82**, 224302 (2010)
15. Observation of Elastic Doublon Decay in the Fermi-Hubbard Model  
N. Strohmaier, D. Greif, R. Jördens, L. Tarruell, H. Moritz, T. Esslinger, **R. Sensarma**, D. Pekker, E. Altman, and E. Demler  
Phys. Rev. Lett. **104**, 080401 (2010)
16. Interacting Hofstadter Spectrum of Atoms in an Artificial Gauge Field  
S. Powell, R. Barnett, **R. Sensarma**, and S. Das Sarma  
Phys. Rev. Lett. **104**, 255303 (2010)
17. Preparation and Detection of d-wave Superfluidity in two-dimensional Optical Superlattices  
A. M. Rey, **R. Sensarma**, S. Foelling, M. Greiner, E. Demler and M. Lukin  
Euro. Phys. Lett. **87**, 600001 (2009).
18. Modulation Spectroscopy and Dynamics of Double Occupancies in a Fermionic Mott Insulator  
**R. Sensarma**, D. Pekker, M. D. Lukin, and E. Demler  
Phys. Rev. Lett. **103**, 035303 (2009)
19. Quantum Fluctuations in the superfluid state of the BCS-BEC Crossover  
R. B. Diener, **R. Sensarma** and M. Randeria  
Physical Review A, **77**, 023626 (2008)
20. Can one Determine the Underlying Fermi Surface in the Superconducting State of Strongly Correlated Superconductors?  
**R. Sensarma**, M. Randeria and N. Trivedi  
Physical Review Letters, **98**, 027004 (2007).

21. Vortices in Superfluid Fermi Gases through the BEC to BCS Crossover  
**R. Sensarma**, M. Randeria and T. L. Ho  
Physical Review Letters, **96**, 090403 (2006).
22. Particle-Hole Asymmetry in Doped Mott Insulators: Implications for Tunneling and Photoemission Spectroscopies  
M. Randeria, **R. Sensarma**, N. Trivedi and F.C. Zhang  
Physical Review Letters, **95**, 137001 (2005).