

ZORAN HADZIBABIC

Lecturer (from June 2007), Cavendish Laboratory, Department of Physics, University of Cambridge
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Education:

- 1997-2003 Ph.D., Physics, **Massachusetts Institute of Technology (MIT)**
GPA: 5.0/5.0, Thesis advisor: Prof. Wolfgang Ketterle
- 1993-1997 B.A. & M.Sci., Natural Sciences, Trinity College, **University of Cambridge**
1st Class in all 4 years, GRE Physics: 990, Thesis advisor: Prof: David E. Khmelnskii

Previous research experience:

- 2003-2007 Postdoctoral Fellow, **Ecole Normale Superieure, Paris, France**
Two-dimensional and rotating Bose gases, Berezinskii-Kosterlitz-Thouless transition, with J. Dalibard
- 1999-2003 Research Assistant, **MIT-Harvard Center for Ultracold Atoms**
Quantum degenerate Fermi gases and Bose-Fermi mixtures, Bose-Einstein condensation of molecules, atom interferometry, with W. Ketterle and D.E. Pritchard
- 1996-1997 M.Sci. Student, **Cavendish Laboratory, University of Cambridge**
Theoretical Condensed Matter Physics, with D.E. Khmelnskii
- 1995-1996 Summer Student, **NASA Jet Propulsion Laboratory, California Institute of Technology**
Theoretical Molecular Physics for Planetary Science applications, with G.S. Orton

Teaching experience:

- 1997-2000 Teaching Assistant, **MIT Department of Physics**
Courses: 1st year Electromagnetism, 4th year Electromagnetism, 4th year Statistical Physics, graduate Atomic Physics I & II, graduate Solid State Physics II

Selected honours:

- 2005-2007 Marie Curie International Fellowship (awarded by the European Union)
- 2003-2005 Chateaubriand Fellowship (awarded by the French Government)
- 1997 Sir Nevill Mott Prize, University of Cambridge
- 1995-1996 Summer Undergraduate Research Fellowship, California Institute of Technology
- 1993-1997 Eastern European Bursary, Trinity College, University of Cambridge

Recent invited talks:

- 07/2007 *Gordon Conference on Atomic Physics*, Tilton, NH, USA
- 06/2007 *DAMOP*, Calgary, Canada
- 03/2007 *March Meeting of the German Physical Society (DPG)*, Regensburg, Germany
- 04/2006 Yale University
- 03/2006 University of California at Berkeley
- 03/2006 California Institute of Technology
- 03/2006 Stanford University
- 02/2006 MIT-Harvard Center for Ultracold Atoms
- 02/2006 *Non-equilibrium Phenomena in Strongly Correlated Quantum Systems*, ITAMP, Harvard
- 07/2005 *Quantum Condensates Meeting*, University of Cambridge
- 10/2004 *Quantum Degenerate Gases in Low-Dimensionality*, ITAMP, Harvard
- 07/2004 *International Symposium on Quantum Fluids and Solids*, Trento, Italy
- 06/2004 *Disordered Ultracold Atomic Gases*, Hanover, Germany

Zoran Hadzibabic - Publications

Experimental articles:

1. **Berezinskii-Kosterlitz-Thouless Crossover in a Trapped Atomic Gas**
Z. Hadzibabic, P. Kruger, M. Cheneau, B. Battelier, and J. Dalibard, *Nature* **441**, 1118 (2006).
2. **Observation of Phase Defects in Quasi-Two-Dimensional Bose-Einstein Condensates**
S. Stock, Z. Hadzibabic, B. Battelier, M. Cheneau, and J. Dalibard, *Phys. Rev. Lett.* **95**, 190403 (2005).
3. **Interference of an Array of Independent Bose-Einstein Condensates**
Z. Hadzibabic, S. Stock, B. Battelier, V. Bretin, and J. Dalibard, *Phys. Rev. Lett.* **93**, 180403 (2004).
4. **Observation of Bose-Einstein Condensation of Molecules**
M.W. Zwierlein, C.A. Stan, C.H. Schunck, S.M.F. Raupach, S. Gupta, Z. Hadzibabic, and W. Ketterle, *Phys. Rev. Lett.* **91**, 250401 (2003).
5. **Fiftyfold Improvement in the Number of Quantum Degenerate Fermionic Atoms**
Z. Hadzibabic, S. Gupta, C.A. Stan, C.H. Schunck, M.W. Zwierlein, K. Dieckmann, and W. Ketterle, *Phys. Rev. Lett.* **91**, 160401 (2003).
6. **Radio-Frequency Spectroscopy of Ultracold Fermions**
S. Gupta, Z. Hadzibabic, M.W. Zwierlein, C.A. Stan, K. Dieckmann, C.H. Schunck, E.G.M. van Kempen, B.J. Verhaar, and W. Ketterle, *Science* **300**, 1723 (2003).
7. **Decay of an Ultracold Fermionic Lithium Gas near a Feshbach Resonance**
K. Dieckmann, C.A. Stan, S. Gupta, Z. Hadzibabic, C.H. Schunck, and W. Ketterle, *Phys. Rev. Lett.* **89**, 203201 (2002).
8. **Contrast Interferometry using Bose-Einstein Condensates to Measure h/m and α**
S. Gupta, K. Dieckmann, Z. Hadzibabic, and D.E. Pritchard, *Phys. Rev. Lett.* **89**, 140401 (2002).
9. **Two-Species Mixture of Quantum Degenerate Bose and Fermi Gases**
Z. Hadzibabic, C.A. Stan, K. Dieckmann, S. Gupta, M.W. Zwierlein, A. Gorlitz, and W. Ketterle, *Phys. Rev. Lett.* **88**, 160401 (2002).
10. **Evidence for a Critical Velocity in a Bose-Einstein Condensed Gas**
C. Raman, M. Köhl, R. Onofrio, D. S. Durfee, C. E. Kuklewicz, Z. Hadzibabic, and W. Ketterle, *Phys. Rev. Lett.* **83**, 2502 (1999).

Theoretical articles:

11. **Quantized Vortices in the Ideal Bose Gas: A Physical Realization of Random Polynomials**
Y. Castin, Z. Hadzibabic, S. Stock, J. Dalibard, and S. Stringari, *Phys. Rev. Lett.* **96**, 040405 (2006).
12. **Collisions in Zero Temperature Fermi Gases**
S. Gupta, Z. Hadzibabic, J.R. Anglin, and W. Ketterle, *Phys. Rev. Lett.* **92**, 100401 (2004).
13. **Spectroscopic Insensitivity to Cold Collisions in a Two-State Mixture of Fermions**
M.W. Zwierlein, Z. Hadzibabic, S. Gupta, and W. Ketterle, *Phys. Rev. Lett.* **91**, 250404 (2003).

Some further publications:

14. **The Atomic Bose Gas in Flatland**
Z. Hadzibabic, P. Kruger, M. Cheneau, B. Battelier, and J. Dalibard, *Atomic Physics 20* (cond-mat/0609761).
15. **Bose-Einstein Condensates in Fast Rotation**
S. Stock, B. Battelier, V. Bretin, Z. Hadzibabic, and J. Dalibard, *Laser Phys. Lett.* **2**, 275 (2005).

References available on request