

1. **VESNA F. MITROVIĆ**

Associate Professor,
Department of Physics
Brown University
182 Hope Street, Box 1843
Providence, RI 02912, U.S.A.

2. **EDUCATION:**

2001 Ph. D. Physics, Northwestern University, Evanston, IL
1996 M. S. Physics, Northwestern University, Evanston, IL
1995 B. S. Physics, Illinois Institute of Technology (IIT), Chicago, IL

3. **PROFESSIONAL APPOINTMENTS:**

1/2010 - present Associate Professor of Physics, Brown University, Providence, RI
6/2011 - 7/2011 Visiting Professor Université Joseph Fourier, Grenoble, France
1/2004 - 12/2009 Assistant Professor of Physics, Brown University, Providence, RI
7/2003 - 12/2003 Assistant Research Professor, Brown University, Providence, RI
1/2002 - 12/2003 Post Doctoral Fellow, Grenoble High Magnetic Field Laboratory,
Grenoble, France

4. **ACADEMIC AWARDS and HONORS:**

2014 Visiting Professor, Université Joseph Fourier, Grenoble, France
2011 Visiting Professor, Université Joseph Fourier, Grenoble, France
2010/11 Visiting Professor, IQC, Waterloo, Canada
2007 Manning Assistant Professorship, Brown University
2007 A. P. Sloan Fellowship
2005 Richard B. Salomon, Faculty Research Award, Brown University
2005 Visiting Scientist Program, NHMFL, Tallahassee, FL

5. **PRODUCTS:**

Five Related Publications:

- i. H. Mayaffre, S. Krämer, M. Horvatić, C. Berthier, K. Miyagawa, K. Kanoda and V. F. Mitrović, “Evidence of Andreev bound states as a hallmark of the FFLO phase in κ -(BEDT-TTF) $_2$ Cu(NCS) $_2$ ”, to appear in *Nature Physics*, Nov. (2014).
- ii. “Field Evolution of Coexisting Superconducting and Magnetic Orders in CeCoIn $_5$ ”, G. Koutroulakis, M. D. Stewart, V. F. Mitrović, M. Horvatić, C. Berthier, G. Lapertot, J. Flouquet, *Phys. Rev. Lett.* **104**, 087001 (2010).
- iii. “Field Dependence of the Ground State in the Exotic Superconductor CeCoIn $_5$: a Nuclear Magnetic Resonance Investigation”, G. Koutroulakis, V. F. Mitrović, M. Horvatić, C. Berthier, G. Lapertot, J. Flouquet, *Phys. Rev. Lett.* **101**, 047004 (2008).
- iv. V. F. Mitrović, M. Horvatić, C. Berthier, M. Shayegan, “NMR Study of Large Skyrmions in Al $_{0.13}$ Ga $_{0.87}$ As Quantum Wells”, *Phys. Rev. B* **76**, 115335 (6 pp) (2007).
- v. “Spatially resolved electronic structure inside and outside the vortex cores of a high-temperature superconductor”, V. F. Mitrović, E. E. Sigmund, M. Eschrig, H. N. Bachman, W. P. Halperin, A. P. Reyes, P. Kuhns, W. G. Moulton, *Nature* **413**, 501 (2001).

Five Other Publications:

- i. “The nature of the low-energy excitations in the short-range-ordered region of Cs_2CuCl_4 as revealed by ^{133}Cs nuclear magnetic resonance”, M.-A. Vachon, G. Koutroulakis, V. F. Mitrović, Ookie Ma, J. B. Marston, A. P. Reyes, P. Kuhns, R. Coldea, and Z. Tylczynski, *New J. Phys.*, **13**, 093029 (2011). (IOP-Select Article)
- ii. “Magnetism and metal-insulator transition in $\text{Fe}(\text{Sb}_{1-x}\text{Te}_x)_2$ ”, Rongwei Hu, V. F. Mitrović, and C. Petrovic, *Phys. Rev. B* **79**, 064510 (2009).
- iii. “Similar glassy features in the ^{139}La NMR response of pure and disordered $\text{La}_{1.88}\text{Sr}_{0.12}\text{CuO}_4$ ”, V. F. Mitrović, C. de Vaulx, M. Horvatić, C. Berthier, T. Suzuki, K. Yamada, M.-H. Julien, *Phys. Rev. B* **78**, 014504 (2008).
- iv. V. F. Mitrović, M. Horvatić, C. Berthier, M. Shayegan, “NMR Study of Large Skyrmions in $\text{Al}_{0.13}\text{Ga}_{0.87}\text{As}$ Quantum Wells”, *Phys. Rev. B* **76**, 115335 (6 pp) (2007).
- v. “Observation of Spin Susceptibility Enhancement in the Possible Fulde-Ferrell-Larkin-Ovchinnikov State of CeCoIn_5 ”, V. F. Mitrović, M. Horvatić, C. Berthier, G. Knebel, G. Lapertot, J. Flouquet, *Phys. Rev. Lett.* **97**, 117002 (2006).

Total of 38 publications; 6 in *Phys. Rev. Lett.*, 1 in *Nature*, 2 in *Nature Physics*.

Total of 42 invited conference presentations and seminars.

Press Releases:

NSF News: http://www.nsf.gov/news/news_summ.jsp?cntn_id=116548

<http://physics.aps.org/synopsis—for/10.1103/PhysRevLett.104.087001>

6. SYNERGISTIC ACTIVITIES:

Session Chair, “Frustrated Magnetism - Magnetic Insulators”, APS March Meeting, Boston, MA, February 2012

Served on National High Magnetic Field Laboratory, Tallahassee, FL, Users Committee (2007-2009; 2010-2012)

Invited Professional Lectures: Two advanced graduate level lectures on spin resonance spectroscopies applied to CM physics were given at the 2008 Boulder Summer School for Condensed Matter and Materials Physics. Delivered 12 hours of lectures on *Low Dimensional Quantum Transport and Modern Microscopic Techniques* at Hanoi University of Science, Hanoi, Vietnam, December 2012.

Example of developments in the field of magnetic resonance: user friendly IGOR based software for comprehensive NMR analysis and modeling of observables; novel NMR techniques to allow for NMR at extreme conditions of high field and low temperatures (e.g. *PRB* **76**, 115335 (2007) and **64**, 024520 (2001)) (these techniques have been employed by other users of high field facilities and in our collaborative work with industrial partners); and, demos of application of NMR to quantum computing (constructed a Zeeman-perturbed NQR set up on NaClO_3 to demonstrate basic 2 qubit operations).

7. COLLABORATORS & OTHER AFFILIATIONS:

Collaborators & Co-Editors (Current and during the past 48 months):

Claude Berthier (LNCMI, Grenoble, France); Radu Coldea (University of Oxford, UK); David Cory (IQC, University of Waterloo); James Dickerson (Center for Functional Nanomaterials, BNL); Ian Fisher (Stanford); Jacques Flouquet (CEA, Grenoble, France); Béatrice Grenier (INAC, CEA, Grenoble, France); Mladen Horvatić (LNCMI, Grenoble, France); Marc-Henry Julien (LNCMI, Grenoble, France); Kazushi Kanoda (University of Tokyo); Georg Knebel (CEA, Grenoble, France); Steffen Krämer (LNCMI, Grenoble, France); Philip Kuhns (NHMFL); Gerard Lapertot, (CEA, Grenoble, France); John Brad Marston (Brown); Hadrian Mayaffre (LNCMI, Grenoble, France); Patrice Millet (CEMES, CNRS, Toulouse, France); Kazuya Miyagawa (University of Tokyo); Emilia Morosan (Rice); David Paine (Brown); Tayhas Palmore (Brown); Cedomir Petrović (BNL); Arneil Reyes (NHMFL); Zbigniew Tylczynski (Adam Mickiewicz University, Poland).

Graduate Advisor & Postdoctoral Sponsors:

Ph.D. Thesis Advisor: Prof. William P. Halperin (Northwestern University, Evanston, IL)
Postdoctoral Advisor: Dr. Claude Berthier (Grenoble National High Magnetic Field
Laboratory, Grenoble, France)

Thesis Advisor & Postgraduate-Scholar Sponsor:

Total of 5 graduate students advised; Total of 2 PostDocs.

Marc-André Vachon (Equisoft, Montreal, Ph.D. 02/2009); Rongwei Hu (Ames Lab., Ph.D. 08/2009); Georgios Koutroulakis (LANL-UCLA, Ph.D. 10/2010); Lu Lu (Brown, 5th year Ph.D.); Wencong Liu (Brown and BNL, 3rd year Ph.D.) Michael D. Stewart, Jr. (NIST, Postdoc, 2008-2009); Myeonghun Song (Brown, Postdoc, 2010-2011).