

Thomas J. Gramila

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EDUCATION

B.S. Columbia University, Applied Physics, October 1979
M.S. Cornell University, Physics (November 1984)
Ph.D. Cornell University, Physics (November 1989)
Thesis topic: Field Dependence Study of the ³He Magnetic Relaxation Process
Thesis advisor: Professor Robert C. Richardson

PROFESSIONAL EXPERIENCE

8/99 to present: *Associate Professor, Department of Physics, Ohio State University.*
8/92 to 7/99: *Assistant Professor, Department of Physics, Penn State University.*
4/90 to 8/92: *Postdoctoral Member of Technical Staff, AT&T Bell Laboratories, Murray Hill, NJ.*
12/89 to 3/90: *Temporary Postdoctoral Research Associate, Physics Dept., Cornell University.*
5/82 to 11/89: *Graduate Research Assistant in the Physics Dept., Cornell University.*
9/79 to 8/81: *Research technician, Exxon Research and Engineering Co., N.J.*

AWARDS

August 1992: *Conference Fellowship Award for Young Scientists, Seventh International Conference on Phonon Scattering in Condensed Matter*
September 1993: *Alfred P. Sloan Research Fellow*
July 1995: *Appointed Cottrell Scholar by The Research Corporation*
July 1995: *Recipient of an NSF Career award*

SELECT INVITED TALKS

Invited talk at the *Twentieth International Conference on Low Temperature Physics*, Eugene, Oregon, August 1993. "Measuring Electron-Electron Scattering Rates Through Mutual Friction"
Invited Symposium talk at the *March Meeting of the American Physical Society*, Kansas City 1997. "Probing Correlation Effects in the 2-D Electron System Through Plasmon Enhanced Electron Drag."
Invited talk at the *ITP program on Disorder and Interactions in Quantum Hall and Mesoscopic Systems*, Santa Barbara, CA August 1998. "Coulomb Drag in the Integer Quantum Hall Regime"
Invited talk at the *3rd International Conference on Physical Phenomena at High Magnetic Fields*, Tallahassee, FL, October 1998. "Testing the Limits of Composite Fermions with Phonon Drag"
Invited Symposium talk at the *March Meeting of the American Physical Society*, Minneapolis, 2000. "Testing the Limits of Composite Fermions with Phonon Drag."

SELECT PUBLICATIONS

H. Noh, S. Zelakiewicz, X. Feng, T. J. Gramila, L. N. Pfeiffer and K. W. West, "Many-body Correlations Probed by Plasmon Enhanced Drag Measurements in Double Quantum Well Structures", *Phys. Rev. B* **58**, 12621-12625 (1998).
H. G. Feng, H. Noh, S. Zelakiewicz, T. J. Gramila, L. N. Pfeiffer and K. W. West, "Negative Electron Drag and Hole-like Behavior in the Integer Quantum Hall Regime", *Phys. Rev. Lett.* **81** 3219-3222 (1998).

H. Noh, S. Zelakiewicz, T. J. Gramila, L. N. Pfeiffer and K. W. West, "Phonon-mediated drag in double-layer two-dimensional electron systems", *Phys. Rev. B* **59**, 13114-13121 (1999).

S. Zelakiewicz, H. Noh, T. J. Gramila, L. N. Pfeiffer and K. W. West, "Missing $2K_F$ Response for Composite Fermions in Phonon Drag", *Phys. Rev. Lett.* **85** 1942-1945 (2000).

S. Zelakiewicz, T. J. Gramila Response to Comment on: "Missing $2K_F$ Response for Composite Fermions in Phonon Drag", *Phys. Rev. Lett.* **88** 149702 (2002).

GRADUATE STUDENTS

Current Sanghun An, Gokul Gopalakrishnan, Yuko Shiroyanagi, Saral Parks

Xeng Guang Feng: Ph.D. Fall 1997, Thesis: Interlayer Frictional Drag in Double Quantum Wells in Perpendicular Fields.

Next position: post-doc at National High Magnetic Field Lab

Scott Zelakiewicz: Ph.D. Summer 1999, Thesis: Suppression of $2k_F$ Response of Composite Fermions Probed with Phonon Drag

Next position: NRC Fellow at Naval Research Lab

Hwayong Noh: Ph.D. Summer 1999, Thesis: Drag Measurements in Double Layer Two Dimensional Electron Systems: Phonons and Plasmons

Next Position: Post-doc with Dan Tsui (Nobel laureate), Princeton

Tony Ragucci: Ph.D Fall 2004, Thesis: Cleanroom Establishment and Processing Implementation for electron drag

Next position: research staff at Lynn Tech, a research firm in Texas

RESEARCH PROPOSALS

Proposals completed:

9/93-9/97 Alfred P. Sloan Foundation, Sloan Research Fellow, \$ 30,000

5/94-4/97 National Science Foundation (Gramila, Samarth), Physics Research Experience for Undergraduates at Penn State \$192,443

7/95-9/98 National Science Foundation Career Award: Electron Drag Measurements: A New Approach in Electron Physics, \$225,000

5/97-4/98 National Science Foundation (PI: Gramila, Co-PI: Yeazell), Physics Research Experience for Undergraduates \$ 60,000

7/95-6/00 The Research Corporation, Cottrell Scholar \$ 50,000

5/98-5/01 National Science Foundation, Physics Department Research experiences for Undergraduates (PI: Gramila, CoPI's: Yeazell, Li) (at Penn State) \$193,375

9/98-12/02 National Science Foundation, Disorder and Correlation Effects Examined Through Electron Drag Measurements \$240,000

Proposals Active:

09/02-8/05 National Science Foundation, DMR - Condensed Matter Physics "Development of a New Approach to Contactless Transport Measurements at Cryogenic Temperatures" \$288,612

5/03-4/06 National Science Foundation, DMR - Condensed Matter Physics "Experimental Investigations of Properties of Electron Systems", \$300,000

SERVICE

Reviewed papers and proposals for various journals and agencies.

Appointed member of National Research Council Review Panel

Oct. 1999 - Oct. 2002, term extended to Oct. 2005

This panel reviews the National Institute of Standards and Technology (NIST), and prepares its report for Congress. I was asked to chair the Electricity Division sub-panel in Oct. 2003.