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Education:

1997 – Present: Ph.D. candidate, SUNY at Stony Brook, Dept. of Physics and Astronomy.

Thesis topic: The Crystal Collimation System of the Relativistic Heavy Ion Collider
Advisor: Dr. Stephen G. Peggs
Expected Summer 2004

1998: M.A., SUNY at Stony Brook, Dept. of Physics and Astronomy.

1993 – 1997: B.S. Honors, cum Laude, SUNY at Stony Brook, Dept. of Physics, Member of the Honors College.
Member: ΣΠΣ and Society of Physics Students
Thesis: Experiments in Sonoluminescence
Advisors: Prof. Harold J. Metcalf, Prof. Thomas K. Hemmick

Research Interests:

- Synchrotron Radiation Sources and Properties
- Free Electron Laser Physics
- Energy Recovery Linacs
- Electron Cooling
- Accelerator Simulation

Research Experience:

July 2000 – Present Brookhaven National Laboratory:

- Commissioned RHIC Crystal Collimator
- Simulated Crystal Collimator in RHIC
- Measured RHIC Crystal Collimator performance
- Redesigned RHIC collimation system
- Assisted Supervising another student's project for Masters of Scientific Instrumentation degree
- Implemented new interface for the Unified Accelerator Libraries to the ROOT Data Analysis Framework

1998 – July 2000 SUNY at Stony Brook – Nuclear Structure Laboratory:

- Improved Francium ion transport beamline.
- Core Member of collaboration that:
 - Measured Francium $7P_{1/2}$ isotope shifts
 - Measured the hyperfine structure and lifetimes of the $7D_{3/2}$ and $7D_{5/2}$ states of Francium
 - Designed a new Magneto-Optical Trap for Francium atoms

Summer 1998: SUNY at Stony Brook:

Member of team that:

- Developed a Cryogenic X-Ray Microscope at X1A beamline of National Synchrotron Light Source
- Recommissioned the X-Ray optics for X1A beamlines

1994 – 1997 SUNY at Stony Brook:

- Researched Sonoluminescence
- Assisted supervising undergraduate summer students
- Tested lasers for use in laser cooling experiments

Teaching Experience:

2002 U.S. Particle Accelerator School Teaching assistant for Accelerator Physics class at the U.S. Particle Accelerator School at Yale University.

2001 U.S. Particle Accelerator School Teaching assistant for Accelerator Fundamentals class at the U.S. Particle Accelerator School at University of Colorado at Boulder.

1998 – 1999 SUNY at Stony Brook Teaching assistant for the Senior and Graduate Advanced Laboratories during Fall and Spring semesters.

Fall 1996 SUNY at Stony Brook Undergraduate teaching assistant for Classical Physics Honors I.

Awards:

May 2003 Grant from NSF, APS/Division of Beam Physics, and IEEE/Nuclear and Plasma Sciences Society to attend Particle Accelerator Conference '03.

June 2002 Grant from Bergoz Instrumentation to attend European Particle Accelerator Conference '02.

Fall 1997 – Fall 1999 Recipient of NSF Graduate Research Training Fellowship in Optics.

Professional Affiliations:

American Physical Society

References:

Available upon request.

Invited Talks:

RHIC Crystal Collimation R. P. Fliller III, *Relativistic Channeling and Related Coherent Phenomena, INFN - Laboratori Nazionali di Frascati, Frascati, Italy.*

Crystal Collimation at the Relativistic Heavy Ion Collider R. P. Fliller III, A. Drees, D. Gassner, L. Hammons, G. McIntyre, D. Trbojevic, V. Biryukov, Y. Chesnokov, V. Terekhov, *Proceedings of ICFA Advanced Beam Dynamic Workshop HALO'03, Montauk, NY.*

Bent Crystal Pre-Collimation at RHIC and Other Proposed Uses at BNL R. P. Fliller III, *Proceedings of The 10th ICFA mini-workshop on Slow Extraction, Upton, NY.*

Publications:

Beam Profile Measurements and PIN Diode Calibration Using the RHIC Collimators
R. P. Fliller III and A. Drees, C-A/AP Note 132 (2004).

Commissioning results and applications L. Ahrens, M. Bai, M. Blaskiewicz, M. Brennan, P. Cameron, R. Connolly, A. Drees, W. Fischer, R. Fliller, D. Gassner, J. Kewisch, S. Peggs, F. Pilat, V. Ptitsyn, T. Roser, T. Satogata, S. Tepikian, D. Trbojevic, J. van Zeijts, Nucl. Inst. & Meth. A **499**, 415 (2003).

RHIC beam instrumentation M. Bai, P. Cameron, P. Cerniglia, R. Connolly, J. Cupolo, C. Degan, A. Drees, R. Fliller, D. Gassner, J. Mead, V. Ptitsyn, T. Satogata, T. Shea, R. Sikora, P. Thompson, R. Witkover, Nucl. Inst. & Meth. A **499**, 372 (2003).

New Results From Crystal Collimation at RHIC R. P. Fliller III, A. Drees, D. Gassner, L. Hammons, G. McIntyre, D. Trbojevic, V. Biryukov, Y. Chesnokov, V. Terekhov, *Proceedings of the 2003 Particle Accelerator Conference, Portland, Oregon.*

Beam Diffusion Measurements at RHIC R. P. Fliller III, A. Drees, D. Gassner, G. McIntyre, S. Peggs, D. Trbojevic, *Proceedings of the 2003 Particle Accelerator Conference, Portland, Oregon.*

Abort Gap Studies and Cleaning during RHIC Heavy Ion Operation A. Drees, L. Ahrens, R. Fliller III, W. Fu, G. Heppner, V. Kain, *Proceedings of the 2003 Particle Accelerator Conference, Portland, Oregon.*

Commissioning of RHIC Deuteron-Gold Collisions T. Satogata, L. Ahrens, M. Bai, J. Beebe-Wang, M. Blaskiewicz, M. J. Brenann, K. A. Brown, P. Cameron, J. Cardona, R. Connolly, A. Drees, W. Fischer, R. P. Fliller, G. Ganetis, C. Gardner, W. Glenn, H. Hahn, T. Hayes, H. Huang, U. Iriso-Ariz, W. W. MacKay, A. Marusic, C. Montag, F. Pilat, V. Ptitsyn, T. Roser, K. Smith, S. Tepikian, D. Trbojevic, N. Tsoupas, J. van Zeijts, S. Y. Zhang, *Proceedings of the 2003 Particle Accelerator Conference, Portland, Oregon.*

Toward the UAL Open Source Project N. Malitsky, R. Talman, M. Blaskiewicz, R. Calaga, R. Fliller III, A. Luccio, T. Satogata, J. Wei, *Proceedings of the 2003 Particle Accelerator Conference, Portland, Oregon.*

Crystal Collimation at RHIC R. P. Fliller III, A. Drees, D. Gassner, L. Hammons, G. McIntyre, D. Trbojevic, V. Biryukov, Y. Chesnokov, V. Terekhov, *Proceedings of the 2002 European Particle Accelerator Conference, Paris, France.*

Beam Diffusion Studies at RHIC R. P. Fliller III, A. Drees, D. Gassner, G. McIntyre, S. Peggs, D. Trbojevic, *Proceedings of the 2002 European Particle Accelerator Conference, Paris, France.*

RHIC Collimator Performance R. P. Fliller III, A. Drees, D. Gassner, G. McIntyre, D. Trbojevic, *Proceedings of the 2002 European Particle Accelerator Conference, Paris, France.*

Abort Gap Cleaning in RHIC A. Drees, L. Ahrens, R. Fliller III, D. Gassner, G. T. McIntyre, R. Michnoft, D. Trbojevic, *Proceedings of the 2002 European Particle Accelerator Conference, Paris, France.*

Traps for neutral radioactive atoms G. D. Sprouse, R. P. Fliller III, J. S. Grossman, L. A. Orozco, M. R. Pearson, **Nuclear Physics A** Volume 701, Issues 1-4, 22 April 2002, Pages 597-603.

The Two Stage Crystal Collimator for RHIC R. P. Fliller III, A. Drees, V. Biryukov, Y. Chesnokov, D. Gassner, G. McIntyre, V. Terokov, D. Trbojevic, *Proceedings of the 2001 Particle Accelerator Conference, Chicago, Illinois*.

Beam Lifetime and Emmitance Growth Measurements of Gold Beams in RHIC at Storage
A. Drees, W. Fischer, M. Brennan, R. Connolly, R. Fliller, S. Tepikian, J. van Zeijts, *Proceedings of the 2001 Particle Accelerator Conference, Chicago, Illinois*.

Commissioning of the Relativistic Heavy Ion Collider L. Ahrens, M. Blaskeiwicz, M. Brennan, M. Bai, P. Cameron, J. Cardona, R. Connolly, A. Drees, R. P. Fliller, W. Fischer, G. Ganetis, W. Glenn, H. Hahn, A. Lehrach, W. MacKay, J. Kewisch, S. Peggs, F. Pilat, V. Ptitsyn, T. Roser, T. Satogata, S. Tepikian, D. Trbojevic, N. Tsoupas, J. van Zeijts, *Proceedings of the 2001 Particle Accelerator Conference, Chicago, Illinois*.

Beam Lifetime Dependence on the Beam-Gas Interactions in RHIC D. Trbojevic, H. C. Hsueh, W. MacKay, A. Drees, R. Fliller, *Proceedings of the 2001 Particle Accelerator Conference, Chicago, Illinois*.

Isotope Shift of the $7P_{1/2}$ level in $^{209-211}\text{Francium}$ R. P. Fliller III, J. S. Grossman, C. T. Langlois, L. A. Orozco, M. R. Pearson, G. D. Sprouse, *Bull. Am. Phys. Soc.* Session K4.04 (2000).

Lifetimes of the 7D excited states of Francium J. S. Grossman, R. P. Fliller III, L. A. Orozco, M. R. Pearson, G. D. Sprouse, *Bull. Am. Phys. Soc.* Session J6.07 (2000).

Lifetime Measurements of the 7D levels of atomic Francium J. S. Grossman, R. P. Fliller III, L. A. Orozco, M. R. Pearson, G. D. Sprouse, *Phys. Rev. A* **62**, 062502 (2000).

Energies and hyperfine splittings of the 7D levels of atomic Francium J. S. Grossman, R. P. Fliller III, T. E. Mehlstäubler, L. A. Orozco, M. R. Pearson, G. D. Sprouse, W. Z. Zhao, *Phys. Rev. A* **62**, 052507 (2000).

Intensity Correlations Experiments in Sonoluminescence R. Fliller, T. Yeo, W. Buell, T. Hemmick, H. Metcalf, *Bull. Am. Phys. Soc.* **42**, 1134, (1997), M18-8.

Experiments in Sonoluminescence R. Fliller, E. Davies, W. Buell, H. Metcalf, *Bull. Am. Phys. Soc.* **41**, 1057 (1996) WC1.