

## ROBYN M. MILLAN

**EDUCATION:** 1995 B.A., Astronomy, Physics, University of California, Berkeley  
1999 M.A., Physics, University of California, Berkeley  
2002 Ph.D., Physics, University of California, Berkeley,  
Advisor R. P. Lin

**APPOINTMENTS:** 2005—Present Assistant Professor, Dartmouth College  
2002—2005 Research Assistant Professor, Dartmouth College  
Summer 2002 Postdoctoral Research Assistant, U. C. Berkeley  
1997—2002 Graduate Research Assistant, U. C. Berkeley  
1996—1997 Graduate Teaching Assistant, Physics Dept., U. C. Berkeley  
Fall 1995 Teaching Assistant, Astronomy Dept., U. C. Berkeley  
1995—1996 Engineering Assistant, U. C. Berkeley  
1994—1996 Undergraduate Research Assistant, U. C. Berkeley  
Summer 1994 Undergraduate Research Assistant, Lawrence Berkeley Laboratory

**AWARDS:** 2002 NH Space Grant Visiting Young Scholar Award, Dartmouth College  
1998—2001 NASA Graduate Student Research Program Fellowship  
1995 Dorthea Klumpke Roberts Award, University of California, Berkeley  
1995 Department Citation, Astronomy, University of California, Berkeley

### SELECTED PUBLICATIONS: (Full List found in Bibliography)

Clilverd, Mark A., C. J. Rodger, R. M. Millan, J. G. Sample, M. Kokorowski, M. P. McCarthy, T. Ulich, T. Raita, A. J. Kavanagh, and E. Spanswick, Energetic particle precipitation into the middle atmosphere triggered by a coronal mass ejection, *J. Geophys. Res.*, *112*, A12206, doi:10.1029/2007JA012395, 2007.

Millan, R. M., and R. M. Thorne, Review of Radiation Belt Relativistic Electron Losses, *J. Atmos. Solar Terr. Phys.*, *69*, 362-377, 2007.

Millan, R. M., R. P. Lin, M. P. McCarthy, Observation of relativistic electron precipitation during a rapid decrease of trapped relativistic electron flux, *Geophys. Res. Lett.*, *34*, L10101, doi:10.1029/2006GL028653, 2007.

Kokorowski, M., J. G. Sample, R. H. Holzworth, E. A. Bering, S. D. Bale, J. B. Blake, A. B. Collier, A. R. W. Hughes, E. Lay, R. P. Lin, M. P. McCarthy, R. M. Millan, H. Moraal, T. P. O'Brien, G. K. Parks, M. Palupa, B. D. Reddell, D. M. Smith, P. H. Stoker, and L. Woodger, "Rapid fluctuations of stratospheric electric field following a solar energetic particle event", *Geophys. Res. Lett.*, *33*, L20105, doi:10.1029/2006GL027718, 2006.

Millan, R. M., R. P. Lin, D. M. Smith, K. R. Lorentzen, M. P. McCarthy, X-ray Observations of MeV Electron Precipitation with a Balloon-Borne Germanium Spectrometer, *Geophys. Res. Lett.*, *29*, 47-1, 2002.

Lorentzen, K. R., M. P. McCarthy, G. K. Parks, J. E. Foat, R. M. Millan, D. M. Smith, R. P. Lin and J. P. Treilhou, Precipitation of relativistic electrons by interaction with electromagnetic ion cyclotron waves, *J. Geophys. Res.*, *105*, 5381, 2000.

Millan, R., D. Smits, I. de Pater, Observations of Jupiter at 3.5 cm and 6.0 cm associated with the impact of Comet P/Shoemaker-Levy 9, *Icarus*, *133*, 184-191, 1998.

### SELECTED RECENT PRESENTATIONS:

Spring 2007 AGU, "The role of the plasmasphere in controlling relativistic electron precipitation", *INVITED* oral.

Fall 2006 AGU, "Observation of relativistic electron precipitation during a rapid decrease of trapped electron flux", *INVITED* oral.

Fall 2006 AGU, "BARREL: A Balloon Array for Monitoring Relativistic Electron Precipitation during the RBSP Mission", *INVITED* poster.

Nov 2006, International meeting on "The Physics Solar Wind/Magnetosphere Coupling", Puerto Vallarta, Mexico, "Characteristics of Duskside Precipitation during Rapid Depletions of the Radiation Belt Electron Flux", *INVITED* oral.

Apr 2006, Science Division Lecture at Norwich Univ., "Space Weather: Studying the near-Earth Space Environment", *INVITED* oral.

Mar 2006, 2nd International Riometry Workshop, Banff, "Global Monitoring of Relativistic Electron Precipitation", *INVITED* oral.

Feb 2006, Yosemite Workshop on Global Aspects of Magnetosphere-Ionosphere Coupling, "Precipitation of Relativistic Electrons by Resonant Interaction with Plasma Waves", *INVITED* oral.

Apr 2005, NCAR Boulder, Colorado, "Summary of the MINIS Balloon Campaign", *INVITED* seminar.

### GRANTS AND CONTRACTS:

1. PI NASA LWS TR&T: "Investigation of Ion Cyclotron Waves as a Loss Mechanism for Radiation Belt Electrons", \$397,599, 5/1/08-4/30/11, pending (submitted Oct. 19, 2007)
2. PI NASA RBSP GMOO: "Balloon Array for Monitoring Relativistic Electron Losses during the RBSP Mission", \$9,301,634, 10/30/06 - 3/31/15
3. PI NASA Graduate Student Research Program Fellowship for Leslie Woodger, "Investigating EMIC Waves as a Precipitation Mechanism for Relativistic Electrons", \$24,000/year, 9/25/06 - 9/24/09
4. PI NSF ATM (GEM) Grant "A Quantitative Comparison of the Theory and Observations of Relativistic Electron Precipitation due to Electromagnetic Ion Cyclotron Waves" \$270,000 5/1/05 - 4/30/08

5. PI NSF ATM/OPP Grant “An Arctic Winter Balloon Campaign to Study Mechanisms of Relativistic Electron Precipitation”, \$252,673 4/15/04-4/14/06
6. PI NSF ATM (GEM) Grant “A Study of Relativistic Electron Precipitation with data from the MAXIS 2000 Long Duration Balloon Flight”, \$120,000 6/15/03-6/14/05

**PROFESSIONAL SERVICE:**

- Member NASA Radiation Belt Storm Probes Science Working Group, 2006—present
- Program Committee for 2008 APS Division of Plasma Physics meeting
- Co-convenor and chair for special session, 2006 Spring Meeting of the American Geophysical Union
- Referee for *Adv. Space Res.*, *Ann. Geophys.*, *Geophys. Res. Lett.*, *J. Geophys. Res.*, *J. Atmos. Sol. Terr. Phys.*, *Solar Physics*
- NSF CEDAR Proposal Review Panel (2006); Proposal Reviewer for NSF Atmospheric Sci., NASA ROSES, NASA LWS TR&T

**STUDENTS SUPERVISED:**

1. Current PhD Students Leslie Woodger (2004—present), James Lundberg (2007—present)
2. Current M. S. Students Jessica Hewitt (2007—present)
3. Senior Honors Thesis Andrew Hunter (2004), Karl Yando (present)
4. Presidential Scholars Karl Yando (2007)
5. Women in Science Program (WISP) Chelsea Lalla (2004), Elysa Corin (2005), Lindsay Dana (2006), Caitlin Johnson (2007)
6. Other Undergrad Researchers Supported: Andrew Hunter (Summer 2004), Chelsea Lalla (Fall 2005), Semikhan Dokken (Summer 2007), Robin Meyers (Summer/Fall 2007)

**OTHER THESIS COMMITTEES:**

- |                       |                         |
|-----------------------|-------------------------|
| Alicia Eccles-Sanchez | (M. S., 2005)           |
| Robert Michell        | (Ph. D., 2007)          |
| Chris Colpitts        | (thesis proposal, 2006) |
| Yonggang Hu           | (thesis proposal, 2007) |
| Nick Bunch            | (thesis proposal, 2007) |

**COURSES TAUGHT:**

- |                          |                    |              |          |
|--------------------------|--------------------|--------------|----------|
| Astronomy 2/Astronomy 3: | W03, F03, X05, X06 | Physics 122: | S03      |
| Physics 13:              | W07                | Physics 256: | F06, F07 |
| Physics 14:              | S06                |              |          |

**DEPARTMENT AND COLLEGE SERVICE:**

- |                                               |                                               |
|-----------------------------------------------|-----------------------------------------------|
| <u>2005—2006:</u>                             | <u>2006—2007:</u>                             |
| Qualifying Exam Committee - member            | DCAL Advisory Board - member                  |
| Graduate Committee - member                   | Qualifying Exam Committee - member            |
| Department Recorder                           | Department Recorder                           |
| Space Plasma seminar - co-organizer (Fall)    | Space Plasma seminar - co-organizer (Fall)    |
| Department Colloquium - co-organizer (Winter) | Department Colloquium - co-organizer (Winter) |
| Curriculum Committee - member                 | Grad student TA assignments                   |
|                                               | P256 Instructor                               |

Current:

- DCAL Advisory Board - member
- WISP Advisory Board - member
- Curriculum Committee - member
- Space Plasma Seminar - co-organizer
- Advanced Placement Committee
- Instructional Equipment Committee
- P256 Instructor

**OTHER SYNERGISTIC ACTIVITIES:**

- Presented public lecture hosted by the New Hampshire Astronomical Society. Title: “From the Sun to Planet Earth: Space Weather and the Near-Earth Environment” (2007)
- Presented lecture on “Space Weather” for the Norwich University Science Division (2006).
- Presented talk about field work in Churchill, Manitoba to Dartmouth Arctic Club (2005)
- Presentation to Women in Leadership (WIL) students at Dartmouth College(2003)
- Presented popular talk on scientific field work in Antarctica for a freshman seminar at Dartmouth College (2002).
- Faculty advisor for Physics Department “Physics Teaching Forum” journal club.
- Co-advisor (with K. Lynch) to Space Physics Journal Club at Dartmouth