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Education

Ph.D. Astrophysics, California Institute of Technology, 2008 (Expected)

S.B. Physics, Massachusetts Institute of Technology, 2000

S.B. Literature, Massachusetts Institute of Technology, 2000

Research Experience

Research Assistant 2003–Present
Robert McKeown California Institute of Technology

- Development of data acquisition software for the CHICOS cosmic ray observatory using Labview.
- Development of event reconstruction software using C++.
- Analysis of ultra-high energy cosmic ray data observed by CHICOS.
- Testing and repair of cosmic ray detector hardware and electronics.

Research Assistant 2001–2003
Sterl Phinney California Institute of Technology

- Numerical modelling of the gravitational wave background noise produced by galactic white-dwarf binaries for the LISA gravitational-wave interferometer.

Research Assistant 1997–2000
Peter Fisher Massachusetts Institute of Technology

- Testing of signal transmission via optical fiber and silicon microstrip detectors for use in the Alpha Magnetic Spectrometer cosmic-ray experiment.
- Development of data acquisition software using Labview.
- Precision metal machining of experiment hardware.

Teaching Experience

Weekly seminars on event reconstruction and data analysis for the CHICOS project summer session, Summers 2004–2007

Teaching Assistant, The Evolving Universe; Black Hole Physics Section, Spring 2004

Teaching Assistant, The Evolving Universe; Art in Astronomy Section, Spring 2003

Teaching Assistant, Structure and Dynamics of Galaxies, Winter 2003

Teaching Assistant, Basic Astronomy and the Galaxy, Fall 2002

Employment

Technical Writer 2000–2001
Nortel Networks Montreal, Quebec

- Writing and editing of technical manuals for optical fiber networks.

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Publications

- “Measurement of Ultra-High Energy Cosmic Rays with CHICOS,” Ph.D. Thesis (2008).
- “Studies of Air Showers in the Energy Range 10^{17} eV – 10^{18} eV with CHICOS Detectors,” 29th International Cosmic Ray Conference (2005).
- “Studies of Air Showers above 10^{18} eV with the CHICOS Array,” 29th International Cosmic Ray Conference (2005).
- “Search for Correlated High Energy Cosmic Ray Events with CHICOS,” 29th International Cosmic Ray Conference (2005), J. Phys. G **31** (2005) 409–416.
- “Measurement of the Lorentz Angle in Silicon,” Undergraduate Thesis (2000).

Leadership Experience

- President, Epsilon Theta Fraternity (MIT), 1998–1999.
- Steward, Epsilon Theta Fraternity (MIT), 1997–1999.
- House Manager, Epsilon Theta Fraternity (MIT), 2000.

References

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CHICOS Postdoctoral Scholar, 2003–2006
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