

# Jeffrey Grube

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## EDUCATION

- University of Leeds, UK** **2002-2006**  
PhD in Astrophysics. Supervisor Dr. H.J. Rose, submitted June 2007.  
Thesis Title: X-ray and Gamma-ray Study of TeV Blazars with *RXTE*, *XMM-Newton*,  
and the Whipple 10 m Telescope
- University of California, Riverside, USA** **2000-2002**  
BSc in Physics (3.3 GPA)
- University of Leeds, UK** **2001-2002**  
Physics Undergraduate, UC Education Abroad Program
- Pacific Union College, CA, USA** **1998-2000**  
Electrical Engineering Undergraduate

## RESEARCH EXPERIENCE

- University of Leeds, UK** **2002-2006**

### X-ray data analysis:

Experienced user of standard packages including: FTOOLS, XMM-SAS, and XANADU.  
Produced *RXTE* PCA and *XMM-Newton* data reduction scripts, and performed systematic studies of the measured energy spectrum between instruments on calibration sources.

### TeV gamma-ray data analysis:

Developed a comprehensive data reduction package for the Whipple 10 m telescope.  
Experience with generating CORSIKA air shower simulations, determining the effective area of the instrument, and implementing energy reconstruction, integral flux, and energy spectrum methods for Whipple 10 m data.

### Interpretation of X-ray and TeV Observations of Blazars:

Skilled in measured the flux and energy spectrum of variable TeV blazars with *RXTE* PCA, *XMM-Newton*, and the Whipple 10 m. Practice investigated the high energy time-scales and emission mechanisms in blazars.

### Programming skills:

C++, Fortran, Tcl/Tk, UNIX C-shell, CERN packages PAW and ROOT.

- Fred Lawrence Whipple Observatory, USA** **2002-2006**

Four extensive stays, including a two-month fellowship as observer and troubleshooter for both hardware and software issues with the Whipple 10 m and VERITAS.

- University of California, Riverside, USA** **2001-2002**

Assistant in materials workshop for the TIGRE gamma-ray balloon experiment.

## TEACHING EXPERIENCE

- University of Leeds, UK** **2002-2006**

Tutorials and Laboratory Demonstrator for four years  
Presenter for prospective Physics undergraduates  
Experiment leader for school group events

**Pacific Union College, CA, USA** **1998-2000**  
Tutorials teacher

### AWARDS AND SCHOLARSHIPS

**University of Leeds, UK** **2003-2006**  
PhD Scholarship, School of Physics and Astronomy

**Worldwide Universities Network, International** **2005-2006**  
Research Award for collaboration with Penn State University

**Smithsonian Institution, USA** **2003-2004**  
Grant, Two month on site observing and technical work at the Whipple Observatory

**UC Education Abroad Program, USA** **2001-2002**  
Scholarship, Awarded to "Deans Honors List"

### OBSERVING PROPOSAL AWARDS

**Suzaku Cycle 1, Co-I** "Target of Opportunity Observations of New and Flaring TeV Blazars"  
**INTEGRAL AO-3 & 4, Co-I** "Measuring the Total Electromagnetic Luminosity of the Universe with INTEGRAL"  
**RXTE Cycle 10 & 11, Co-I** "Target of Opportunity Multiwavelength Observations of the Strong Blazars  
Mrk 501 and 1ES 1959+650"  
**RXTE Cycle 10 & 11, Co-I** "Target of Opportunity Multiwavelength Observations of New Blazars  
Detected with the VERITAS Cherenkov Telescope Array"  
**Whipple 10 m Telescope (2002-2006), Co-I** "Strong Source Monitoring and Target of Opportunity  
Spectral Measurements of Medium Redshift Blazars"  
**Whipple 10 m Telescope (2002-2006), Co-I** "Monitoring of Candidate AGNs for TeV Emission"  
**Whipple 10 m Telescope (2002-2006), Co-I** "X-ray and TeV Gamma-ray Observations of Blazars"

### REFEREES

Dr. Joachim Rose	Dr. Johannes Knapp	Dr. Henric Krawczynski	Prof. Trevor Weekes
University of Leeds, UK	University of Leeds, UK	Washington University, USA	Smithsonian (SAO), USA
<a href="mailto:h.j.rose@leeds.ac.uk">h.j.rose@leeds.ac.uk</a>	<a href="mailto:j.knapp@leeds.ac.uk">j.knapp@leeds.ac.uk</a>	<a href="mailto:krawcz@wuphys.wustl.edu">krawcz@wuphys.wustl.edu</a>	<a href="mailto:tweekes@cfa.harvard.edu">tweekes@cfa.harvard.edu</a>
44 113 343 3872	44 113 343 3890	001 314 935 8553	001 520 670 5726

### CONFERENCE PRESENTATIONS: ORAL AND POSTER

- J. Grube, et al., "Spectral Monitoring of Mrk 421 during 2004", 29th International Cosmic Ray Conference, Pune, India (2005)
- J. Grube, et al., "Spectral Evolution in Markarian 421", Meeting of the Division of Particles and Fields of the American Physical Society, Riverside, CA, USA (2004)
- J. Grube, et al., "The Study of Active Galaxies at TeV Energies", National Astronomy Meeting of the Royal Astronomical Society, Milton Keynes, UK (2004)
- J. Grube, et al., "TeV Blazar Studies at X-ray and TeV Energies", The Impact of Active Galaxies on the Universe at Large, Royal Astronomical Society, London, UK (2004)
- J. Grube, many presentations (X-ray and TeV correlated variability in TeV blazars, analysis) VERITAS Collaboration Meetings, Tucson, AZ, USA (2003,2004,2005,2006,2007)

### GENERAL INTERESTS

20<sup>th</sup> Century history, art, music, and design. Also, cycling, swimming, and food.