Gregory A. Topasna

topasna@astro.phys.vt.edu

12600 Foxridge La. Apt E
Blacksburg, VA 24060
Home: (540) 951 - 1749
Office: (540) 231 - 8744

EDUCATION

Blacksburg, VA

Virginia Polytechnic Institute and State University, (Virginia Tech)

Doctorate of Philosophy, Physics, May 1999
Dissertation: The Scattering of H(Emission Associated with the Rosette Nebula in the Monoceros Region Studied Using Polarimetry
Major Advisor: Brian K. Dennison

M.S., Physics, December 1996

B.S., Physics, May 1992

Virginia Western Community College, Roanoke, VA
A.S., Science, Summa cum Laude, May 1989

Community College of the Air Force
A.A.S, Construction Technology, October 1987

RESEARCH INTEREST

- Magnetic field structure of the interstellar medium

- Development of astronomical instrumentation

RELATED EXPERIENCE

Research

Research Assistant, Department of Physics, Virginia Tech, Blacksburg, VA
August 1994 - present

- Designed, built, and maintained a roll-roof observatory on the

grounds of the Miles C. Horton Sr. Research Center for the Department of Physics, Virginia Tech

- Designed and constructed a single user, remotely operated rotatable polarizer analyzer for use with the spectral line imaging camera housed in the observatory

- Constructed various other devices necessary for the remote operation of the telescope

- Used the devices listed above to obtain CCD images necessary to determine the morphology of the magnetic fields around select regions of the interstellar medium

- Wrote various computer programs as well as used readily available software packages such as IRAF and AIPS to analyze the data

Teaching

Department of Physics, Virginia Tech, Blacksburg, VA
Instructor, January - May, 1997

- Taught an introductory physics course for non-physics majors

- Developed a web site for students to access pertinent information about the class, their grades, and other useful information

Laboratory Instructor, Summers 1994 - 1997

- Taught introductory physics labs for undergraduate non-physics majors

Teaching Assistant, August 1992 - present

- Responsible for developing, administering, and grading exams and homework (I do all the paperwork and the professor handles the lecture part of the class)

- Responsible for creating a web site which allows astronomy students to have access to exam grades, homework solutions, and useful information about the class

- Given lectures on occasion to large astronomy class

- Held observing session at the Virginia Tech observatories for students in the astronomy class as well as for the general public

OTHER EXPERIENCE

United States Air Force (U. S. A. F.)
Engineering Assistant Specialist, July 1984 - Jan 1988

- Worked as a draftsman and surveyor

- Held secret security clearance while on active duty

Virginia Western Community College, Roanoke, VA
Tutor, August 1988 - May 1989

- Tutored students in math, physics, and chemistry

SKILLS

Computer

- Operating Systems (UNIX, Linux, Windows 95 & NT, DOS)

- Programming Languages (BASIC, FORTRAN, C)

- Web Authoring Experience (HTML, JavaScript)

- Experience in image reduction using various computer programs (e.g., IRAF, AIPS) as well as by writing my own programs

Tools and Machinery

- Experience with electronic equipment (e.g., oscilloscopes, DMMs, etc.,) as well as hands on experience in breadboarding

and soldering circuits

- Knowledgeable in the operation of machinist's tools (e.g., milling machine, metal lathe, brake, etc.) and with wood working tool (e.g., table saw, band saw, drill press, etc.)

- Experience with surveying equipment (e.g., transits, theodolites, levels, metal tapes, etc.) and drafting tools

HONORS/AFFILIATIONS

Phi Theta Kappa
Sigma Pi Sigma
American Astronomical Society, 1995 - present
Achievement Medal, U.S.A.F. , 1987
Good Conduct Medal, U.S.A.F., 1987
Honorable Discharge, U.S.A.F., 1988

PUBLICATIONS

Brian Dennison, Gregory A. Topasna, and John H. Simonetti. 1997. Detection in Hα of a supershell associated with W4., Astrophysical Journal Letters, 474, L31

John H. Simonetti, Brian Dennison, and Gregory A. Topasna. 1996. The Contribution Of Galactic Free-Free Emission to Anisotropies in the Cosmic Microwave Background Found by the Saskatoon Experiment. Astrophysical Journal Letters, 458, L1

Brian Dennison, John H. Simonetti, Gregory A. Topasna, Caitlin Kelleher. An Imaging Survey of the Galactic H(Emission With Arcminute Resolution. IAU Symposium No.179: New Horizons from Multi-Wavelength Sky Surveys (1998)

ABSTRACTS

Gregory A. Topasna, J.H. Simonetti, and B. Dennison. 1997. A Polarization Map in Hα of the North America Nebula. Bulletin of the American Astronomical Society, 29, 784 (190th AAS

Meeting, Winston-Salem, NC)

Gregory A. Topasna, B. Dennison, J.H. Simonetti. 1995. Wide-Field Hα Observations of a Possible Galactic Chimney Associated with W4. Bulletin of the American Astronomical Society, 27, 1348 (187th AAS Meeting, San Antonio, TX)

J.H. Simonetti, B. Dennison, Gregory A. Topasna. 1995. Comparing the Hα Intensity and Radio Wave Scattering on Eight Low-Latitude Lines of Sight. Bulletin of the American Astronomical Society, 27, 1348 (187th AAS Meeting, San Antonio, TX)

J.H. Simonetti, G.A. Topasna, B. Dennison, E.M. Murphy, F.J. Lockman. 1997. Observations of HI Associated with the W4 Supershell. Bulletin of the American Astronomical Society, 29, 784 (190th AAS Meeting, Winston-Salem, NC)

J.H. Simonetti, G.A. Topasna, B. Dennison, 1996. The Contribution of Galactic Free-Free Emission to Anisotropies in the Cosmic Microwave Background Radiation Measured by MSAM. Bulletin of the American Astronomical Society, 28, 840 (188th AAS Meeting, Madison, WI)

Brian Dennison, Gregory A. Topasna, John H. Simonetti. 1996. An Imaging Survey Of the Galactic Hα Emission. Bulletin of the American Astronomical Society, 28, 889 (188th AAS Meeting, Madison, WI)

B. Dennison, J.H. Simonetti, G.A. Topasna, 1997. An Imaging Survey of the Northern Galactic Hα Emission With Arcminute Resolution, Publications of the Astronomical Society of Australia.