

Sonoma State University
Department of Physics and Astronomy
Rohnert Park, California 94928

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This report, the Department's twenty-third, covers the period September 1998 through August 1999. See <http://www.phys-astro.sonoma.edu> for more information.

1. PERSONNEL

The faculty consisted of professors Lynn R. Cominsky, John R. Dunning, Samuel L. Greene, Duncan E. Poland (Chair), Saeid Rahimi, Gordon G. Spear (Observatory Director), and Joseph S. Tenn. Spear remained on leave to SSU's Information Technology department, Greene continued his partial retirement, teaching only in the fall semester, and Dunning was on sabbatical during the spring semester.

2. INSTRUCTION

A total of 420 students took Descriptive Astronomy, Introductory Observational Astronomy, Extraterrestrial Intelligence and Interstellar Travel, Frontiers in Astronomy, Cosmology, and Special Studies.

The Department awarded 3 B.A. degrees in Physics. There were 36 physics majors in Spring 1999.

3. EQUIPMENT

Optical telescopes are mounted in a sliding-roof observatory on campus. Auxiliary instrumentation for the 0.36-m Schmidt-Cassegrain telescope includes a CCD camera, an $f/10$ guide scope, a 0.2-m $f/3$ Baker-Schmidt camera, wide field cameras, a slitless prism spectrograph, a dispersion grating spectrograph with a Hg-Ne comparison source, and a 0.5 Å H α filter.

The Epoch Instruments 0.25-m $f/5$ Newtonian telescope is computer-controlled. The system points reliably to within 1-2 arcminutes on the sky. When used with the AstroLink CCD camera, the resulting images have a 20 arcminute field of view and a 2 arcsecond/pixel image scale. Reliable photometry is feasible for objects as faint as 16th magnitude.

4. RESEARCH

Cominsky continued collaborating with the Particle Astrophysics Group at the Stanford Linear Accelerator Center on the science planning and analysis for the Unconventional Stellar Aspect (USA) X-ray astronomy experiment and the Gamma-ray Large Area Space Telescope (GLAST). She and SSU student Tim Graves released the public web site for GLAST, <http://www-glast.sonoma.edu>. Cominsky also joined the team for Swift, a proposed gamma-ray burst MIDEX experiment, which was selected as one of five finalists for Phase A funding from NASA.

5. MISCELLANEOUS

The optical observatory was used 18 times for public viewing nights and classes. There were over 200 visitors.

The Department presented its *What Physicists Do* public lecture series, under the direction of Cominsky and Tenn, for the 56th and 57th semesters. Visiting speakers on astronomical topics were Leo Blitz, Mario Marckwordt and Gibor Basri (UC Berkeley), Peter Backus (SETI Institute), David Dixon (UC Riverside), David Nygren (LBNL), Raphael Bousso (Stanford), Margaret Kivelson (UCLA), and Andreas Albrecht (UC Davis).

Cominsky continued as Press Officer for the High Energy Astrophysics Division (HEAD) of the AAS. She organized three press conferences at the 1999 HEAD meeting in Charleston, South Carolina. This meeting marked the first use of an embargoed Web-site to reach reporters, who participated via phone conference. SSU student Tim Graves produced the web site, which can be found at: <http://www-glast.sonoma.edu/HEADmeeting>.

In her capacity as AAS Deputy Press Officer, Cominsky also participated in many press activities at the 1999 AAS meeting in Austin, TX.

Cominsky gave two lectures in SSU's *What Physicists Do* series, entitled "Using X-ray Emission from Compact Objects to Study Gravity," and an invited lecture on Mt. Tamalpais to over 350 people entitled "The New Gamma-ray Astronomy."

Tenn served his sixth and final year as chair of the history committee of the Astronomical Society of the Pacific. At the ASP annual meeting in Toronto, he arranged history sessions devoted to amateur contributions to astronomy and to general history. He continues to maintain and add to the Bruce Medalists website: <http://www.phys-astro.sonoma.edu/BruceMedalists>.

PUBLICATIONS

Hirayama, M., Cominsky, L. R., Kaspi, V. M., Nagase, F., Tavani, M., Kawai, N. and Grove, J. E., 1999, "X-ray/Gamma-ray Observations of the PSR B1259-63/SS2883 System near Apsastron," *ApJ*, 521, 718.

Wood, K. S., Fritz, G., Hertz, P. L., Johnson, W. N., Lovellette, M. N., Ray, P. S., Wolff, M. T., Bandyopadhyay, R., Bloom, E. D., Chaput, C., Godfrey, G., Saz Parkinson, P., Shabad, G., Michelson, P., Roberts, M., Leahy, D. A., Cominsky, L., Scargle, J., Beall, J., Chakrabarty, D., & Kim, Y., 1999, "Initial Results from the USA Experiment on ARGOS," *BAAS*, 31, 740 & 1001, 1999.

Lynn R. Cominsky

