

Vassar College Observatory
Department of Physics and Astronomy
Poughkeepsie, New York 12601

This report covers the period from September 1995 to August 1996.

1. PERSONNEL

The astronomy faculty at Vassar College is part of the Department of Physics and Astronomy and includes associate professor Frederick R. Chromey, Director of the Observatory, and Debra Meloy Elmegreen, department chair and Maria Mitchell Professor of Astronomy (promoted to full professor July 1, 1996). Emma Bakes was a visiting assistant professor as Chromey's sabbatical replacement. In May 1996, a total of 9 seniors graduated with degrees in astronomy (1), astronomy and physics (3) and physics (5). There were 10 juniors and 9 declared sophomore majors in the department.

2. EQUIPMENT

The College began construction of a new observatory, to be known as the Class of 1951 Observatory after its primary donors. Instruments will include a 32-inch telescope manufactured by DFM, Inc., to be completed in spring 1997, and a 20-inch telescope manufactured by Optomechanics, Inc. An 8-inch coelostat will be installed in the roof of the main building, and a separate dome will house an 8-inch refractor. Updates can be viewed via <http://noether.vassar.edu/Astronomy.html>.

3. RESEARCH

Chromey and Elmegreen, together with B. Elmegreen (IBM T.J. Watson Research Center) and student B. Bissell, obtained J and K band images of central hotspots and circumnuclear rings in several barred galaxies and interacting galaxies, using the KPNO 2.1m + COB. Students M. Santos, H. Anderson, and Colgate student D. Marshall, part of the

Keck Northeast Astronomy Consortium exchange, assisted in the data reduction and analysis to determine colors, ages, and masses of the star-forming regions.

Chromey, Elmegreen, and student C.O. Johnson observed faint outer structure in nearby spirals and tidally disturbed galaxies using the KPNO Burrell-Schmidt telescope.

Elmegreen continued collaborative radio and optical studies of interacting galaxies with M. Kaufman (Ohio State U.), C. Struck (Iowa State U.), E. Brinks (VLA), B. Elmegreen, M. Thomasson (Onsala), and M. Klaric (Midlands Technical College). They were awarded HST time to image the pair IC 2163/NGC 2207 in UBVI passbands.

Elmegreen's senior thesis student J. Manning studied general properties of rotation curves in a variety of spiral galaxies.

Bakes continued her research on PAH's. Her senior thesis student R. Panfili did a computer analysis of spectral lines caused by different types of dust grains.

Undergraduates participated in several summer research programs: C.O. Johnson was at the VLA, M. Vogelaar was at Kitt Peak National Observatory, and B. Bissell was at Haverford through the Keck exchange. M. Santos and H. Anderson participated in the Vassar Undergraduate Research Summer Institute.

4. MEETINGS

In October 1995, our department hosted the 6th Annual Keck Northeast Astronomy Consortium Research Symposium for students from the member institutions who participated in summer research. Approximately 80 people attended from 8 colleges, with two dozen student presentations.

Debra Meloy Elmegreen and Frederick R. Chromey