

Union College
Physics Department
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This report covers the period September 30, 1996 to September 30, 1997.

1. STAFF

The members of the Physics Department involved in astronomical research include the following: Ralph A. Alpher, Distinguished Research Professor, Jonathon Marr, Assistant Professor and A. G. Davis Philip, Research Professor.

Alpher continued as administrator of Dudley Observatory. Dudley Observatory will soon have to leave its current quarters. There has been a significant drop in its income. The library is being downsized to items having only to do with the history of astronomy. Philip continued as Director of the Shapley Visiting Lectureship Program and as a member of the editorial board of *Baltic Astronomy*. He also continues as a trustee of the Fund for Astrophysical Research and serves on its Theodore Dunham, Jr. Grant Program Committee. He is Secretary and Treasurer of the New York Astronomical Corporation. He joined the Astrometric and Photometric Group at Wesleyan University as a Research Associate.

2. INSTRUMENTATION

An observatory containing a 20-in telescope for educational purposes is under construction by means of a grant from the F. W. Olin Corporation. It is planned to be ready by July, 1998. Associated equipment to be purchased include a CCD, spectrograph and filter wheel.

3. RESEARCH

3.1 Cosmology

Alpher has continued work on a book on cosmology, co-authored with Prof. Robert Herman, who died in February of 1997, and continuing alone since then. A short paper on the omega factor in cosmology, written with Herman, is being revised for future publication in a volume celebrating the ninetieth year of Edward Teller.

3.2 Radio Astronomy

Marr is involved in a VLBI study of gigahertz peaked spectrum sources. He presented a poster paper at IAU Symposium No. 184 in Kyoto on results of this work.

3.3 Stellar Astronomy

V. Straizys (ITPA, Lithuania), Philip and R. Boyle (Vatican Observatory Group) are involved in a program setting up the new Strömvil system (a combination of filters from the Vilnius and Strömgren photometric systems). Philip and Boyle have been making Strömvil observations of stars in open and globular clusters with the Vatican Advanced Technology Telescope on Mt. Graham, Arizona. These observations are most advanced in M 92. M 67 is being set up as a standard region. Philip is continuing his reduction of 4-color photometric CCD data at DAO.

4. MEETINGS

The Third Conference on Faint Blue Stars, held at Union College in October of 1996, is being edited for publication by the L. Davis Press by Philip, Liebert and Saffer. A meeting was held at Yale University in March, 1997, in honor of the ninetieth birthday of Dorrit Hoffleit. The proceedings of this meeting, edited by Philip, van Altena and Uppgren, will be published by the L. Davis Press. Boyce and Philip are editing the proceedings of the Joint Discussion, "Electronic Publishing: Now and the Future," held at the Twenty-third General Assembly of the IAU, in Kyoto, Japan in August, 1997. Plans are underway for a meeting of graduates from Case Institute and Case Western Reserve University, May 2-3, 1998 at CWRU. There are over 200 students who have obtained a Ph.D. in Astronomy from Case or CWRU or who have obtained a BS in Physics from Case or CWRU and then a Ph.D. in Astronomy from another institution.

PUBLICATIONS

- Gray, R. O., Corbally, C. & Philip, A. G. D. 1997, *AJ* 112, 2291
- Marr, J. 1997, *The Physics Teacher*, 35, 34
- Philip, A. G. D. 1997, 30 Years of Astronomy at the Van Vleck Observatory, L. Davis Press and *Baltic Astronomy* 6, 1
- Philip, A. G. D. 1997, in 30 Years of Astronomy at the Van Vleck Observatory, A. G. D. Philip, ed., L. Davis Press and *Baltic Astronomy* 6, p. 63
- Philip, A. G. D. 1997, Shapley Program Report, *BAAS* 29, 1078

A. G. Davis Philip