

Preface

International Astronomical Union Colloquium 135 was held at the Callaway Gardens Inn in Pine Mountain, Georgia, U.S.A., during 5 – 10 April 1992 and was hosted by the Center for High Angular Resolution Astronomy of Georgia State University. The sponsorship of the Colloquium was approved by the I.A.U. Executive following the submission of a proposal from Commission 26, *Double and Multiple Stars*, prepared by former Commission President Harold McAlister with the support of the Presidents of Commissions 24, *Photographic Astrometry*, William Van Altena, and 30, *Radial Velocities*, David Latham.

The Scientific Organizing Committee was comprised by Harold McAlister (USA, chair), Yuri Balega (Russia), Pier-Luigi Bernacca (Italy), Daniel Bonneau (France), Paul Couteau (France), Robert Harrington (USA), Bambang Hidayat (Indonesia), David Latham (USA), Arcadio Poveda (Mexico), Colin Scarfe (Canada), Michal Simon (USA), and Edwin Van Dessel (Belgium). The Local Organizing Committee included Georgia State astronomers William Hartkopf (chair), William Bagnuolo, Jr., Ingemar Furenlid, Douglas Gies, Harold McAlister, and David Wingert. Georgia State astronomy graduate students who assisted with the meeting logistics were Donald Barry, Hsieh-Hai Fu, Michael Hahula, Arun Mangalam, Brian Mason, Laura Penny, Nils Turner, and Rafael Weimker. Deborah Cline and Mollie Raby greeted arriving participants at the Atlanta airport and acted as local tour guides.

The general theme of the meeting is implicit in its title, *Complementary Approaches to Double and Multiple Star Research*, with a particular emphasis on the expanding overlap of observational opportunities offered by advances in precise radial velocity determinations and high angular resolution interferometric measurements. Additional topics considered were: recent advances in our knowledge of duplicity among the youngest stars and pre-main sequence objects; the current status of our theoretical understanding of the possible processes giving birth to binary and multiple stars; the tantalizing first results for binary stars from the Hubble Space Telescope and the European HIPPARCOS astrometry satellite; and the current status and future prospects for classical methods, catalogs and databases. This mix of inter-related topics succeeded in bringing together nearly one hundred astronomers with a diversity of expertise rarely found at a single meeting on binary stars.

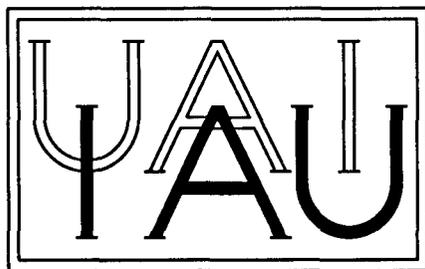
The meeting format called for invited oral presentations and contributed posters. These Proceedings preserve that distinction with generally more pages allocated for the 44 invited papers than for the 74 contributed posters. Each invited paper is accompanied by a transcript of any discussion which followed. Two of the posters were judged to be being especially outstanding contributions by the participants, and the authors were given time for oral presentations. Those papers are included here among the invited papers. The scientific sessions culminated with a critical summary review prepared and presented by Alan Batten.

These Proceedings contain a discussion of the current environment in which scientists from the former Soviet Union find themselves. Several papers are also included from Russian astronomers who were unable to attend the Colloquium.

It is hoped that this will be a small contribution towards the rejuvenation of science in that country.

Finally, the Proceedings record the five resolutions which were passed by the participants of I.A.U. Colloquium 135 and communicated to the I.A.U. General Secretary by the President of Commission 26, Helmut Abt.

The Colloquium could not have taken place without financial support provided by the U.S. National Science Foundation (under grant AST-9119934), by the International Astronomical Union, by the Georgia State University Center for High Angular Resolution Astronomy, and by the Dean of the College of Arts and Sciences at Georgia State University. This support is gratefully acknowledged.



Cover Illustration: An example of the theme of this Colloquium is presented in the form of spectroscopic, speckle interferometric, and photometric observations of the 14.6-yr binary system γ Persei. This spectroscopic binary was resolved by speckle interferometry in the early 1970's and found to have a nearly edge-on orbit. An eclipse was predicted on the basis of the inclination of the speckle orbit, and the heroic efforts of Roger Griffin led to the acquisition of spectroscopic and photometric data during the eclipse event in September 1990. (See Griffin's paper, p. 98)