

PREFACE

IAU Symposium 127 was held in Princeton on May 28–31, 1986, at the Institute for Advanced Study. There were 150 participants from 19 countries. This was the first IAU Symposium devoted exclusively to elliptical galaxies.

The last decade has been a period of exceptionally rapid progress regarding our understanding of elliptical galaxies, driven on the observational side by a wealth of new photometric and spectroscopic data, and on the theoretical side by the recognition that ellipticals are slowly rotating triaxial systems, instead of rotationally flattened bodies. The 30 invited speakers reviewed all aspects of this progress, its consequences, and the major outstanding problems. Nearly 80 poster contributions were displayed for the duration of the meeting. These contained many of the most recent developments.

The first part of these Proceedings contains the written versions of the invited reviews and the summary, in the order of their presentation. The accompanying discussions are based on the written versions of questions and answers as handed in by the participants. The second part of this book is devoted to the poster contributions. They have been grouped in a thematic order, proceeding from morphology to theory. Indices of objects, subjects, and names are provided.

Unfortunately, none of the invited participants from the USSR were able to attend the Symposium. The Proceedings include the written versions of the planned contributions by Popov and Polyachenko.

The appendices contain English translations of three important Russian theoretical papers. In addition to Antonov's famous paper on the stability of spherical stellar systems, for which several unpublished translations exist, we have included a short paper by Antonov on the radial orbit instability which has attracted much attention recently (see the reviews by Polyachenko and Merritt), and a prescient paper by Kuzmin on triaxial models with three exact isolating integrals of motion. The latter two papers were published in 1973, in the same conference proceedings, and were translated by Alex Sphrintsen at the Canadian Institute for Theoretical Astrophysics in Toronto, with considerable help from David Merritt.

Following recent practice in IAU Symposia Proceedings (see, e.g., IAU 106), the inevitable blank pages that result from the sensible requirement that each paper should start on a right hand page, have been used for photographs. With the exception of the one of comet P/Halley and Centaurus A, they were all taken by Joshua Barnes.

The symposium dinner included a surprise party for Martin Schwarzschild's 74th birthday. All of Martin's former students and postdocs had been invited to participate in "Operation Black-Shield". Many of them attended in person, while others sent their congratulations by letter. S. Chandrasekhar gave a delightful after-dinner speech.

The local organization was in the very able hands of Stefano Casertano and Mary Wisnowsky, with help from Sarah Johns, Page Hartwell and Michelle Sage. Their untiring efforts resulted in a very smoothly run Symposium. The graduate students at Princeton University Observatory helped, for the third IAU Symposium in three years, with the audio visual equipment. Herwig Dejonghe efficiently edited the book of abstracts, and helped organize the poster session. He was assisted by Barbara Pinkham, who typed all the abstracts. She and Margaret Best helped with the editing of the Proceedings.

It is a pleasure to thank John Bahcall and Piet Hut, and the members of the Scientific Organizing Committee, in particular James Binney, for their help with the preparation of the Symposium. Financial support from IAU, in the form of travel grants for about 25 young participants from abroad, is gratefully acknowledged.

Finally, the editor wishes to record his gratitude to the staff of the Institute for Advanced Study, and in particular to the director Harry Woolf, for their hospitality and support of the Symposium and the subsequent preparation of these Proceedings.

It is a general rule that the editor of a Symposium Proceedings inevitably underestimates the amount of work involved. The present editor proved no exception. The publication of the Proceedings was delayed further by illness and a very exciting World Series.

Tim de Zeeuw

Scientific Organizing Committee:

T.S. van Albada (The Netherlands), K.H. Barkhatova (USSR), J.J. Binney (UK), M. Capaccioli (Italy), K.C. Freeman (Australia), G.D. Illingworth (USA), L. Martinet (Switzerland), M. Milgrom (Israel), G. Monnet (France), D.O. Richstone (USA), F. Schweizer (USA), P.T. de Zeeuw (USA, Chair).

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