

FOREWORD

When I became President of International Astronomical Union Commission 44 for the triennial period 1985–1988, several members of the Organizing Committee and I agreed that it would be a good idea for our Commission to host a conference on observatories in space in view of their increasingly important role in astronomical research. IAU Colloquium Number 123 “Observatories in Earth Orbit and Beyond” is the first colloquium sponsored by IAU Commission 44 on Astronomy from Space, although Commission 44 has co-sponsored numerous colloquia and symposia in the past.

The past two decades have seen a flourishing of astronomical observatories in space. Over a dozen orbiting observatories have opened up a new window on the universe, providing hitherto unavailable data in the electromagnetic spectral range from gamma-ray, X-ray, ultraviolet to infrared and radio. This has clearly demonstrated the crucial nature of astronomical observations from space.

The invited talks of present colloquium consist primarily of reviews of currently operating observatories in space, future observatories that have been approved by sponsoring government or space agencies, the launch systems of U.S.A., E.S.A., U.S.S.R. and Japan, discussions of various orbits and sites (such as the Moon), and alternate approaches in designing space observatories. Several panel discussions addressed those issues as well as the major unsolved problems of astronomy. Contributed poster papers included descriptions of space observatories that are in planning stage.

The Hubble Space Telescope was launched half an hour before the meeting opened, making it a current observatory. The X-ray satellite, ROSAT, was discussed as a future observatory at the meeting but was successfully placed in orbit a month after the colloquium. The summary of ROSAT in the proceedings was prepared several weeks after the launch and presents ROSAT as an operating satellite.

Some invited speakers and poster-paper contributors were unable to prepare in time their presentations for publication in the proceedings, quite possibly because of their involvement in various space programs or related research activities. In such cases, their abstracts are published if available. If not, their presentations are included by their titles only.

I wish to express my appreciation to the Scientific Organizing Committee for their assistance in organizing the conference and to the Local Organizing Committee, co-chaired by Drs. Mead and Michalitsianos, for their outstanding work. Of course, this meeting would not have been possible without the enthusiastic participation of our colleagues who came despite their busy schedule. In all, 192 people registered for the colloquium. Dr. S.A. Hall of the Library of Congress provided capable assistance in editing the Proceedings and T. Busby-Lewis of West over rendered an efficient logistic support for the conference.

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