

PREFACE

Quasars were discovered by Maarten Schmidt in 1963 when he interpreted the optical spectrum of the stellar object identified with the radio source 3C 273 to imply an unusually high redshift (by standards of those days) of about 0.16. The discovery posed a severe theoretical problem in understanding the tremendous amount of energy released in a rather small volume. Over the last two decades the quasar phenomenon has come to be recognized as an extreme manifestation of a range of violent activity occurring in active galactic nuclei. It is generally believed that the source of the energy is the gravitational field associated with massive objects, perhaps black holes of $10^8 - 10^9$ solar masses. Although many spectacular observational and theoretical results have been obtained and about 3000 quasars have been catalogued through radio, optical and X-ray means, yet the quasar phenomenon is still not well understood. Symposium 119 was the first IAU symposium, devoted exclusively to quasars.

Held at Hotel Ashok in Bangalore, India from December 2 to 6, 1985 soon after the XIX General Assembly of IAU in New Delhi, the symposium was attended by 200 scientists from 21 countries. The wide range of topics concerning quasars covered during the symposium included continuum properties, structure and morphology (in the radio, IR, optical, UV, and X-ray region of the spectrum), emission and absorption line studies, nature and models of the prime movers, cosmological evolution and implications, studies of clustering and pairing, as well as the use of quasars as probes of the intervening medium.

The scientific program consisted of 23 invited reviews, 24 contributed papers and 87 poster presentations. In view of the large number of contributions arrangements were made to keep all the posters on display throughout the symposium. Authors of posters dealing with topics covered on the first day were asked to make a very brief oral summary of their work. For the remaining days the posters were divided into 12 groups according to the similarity of topics covered by them. Posters in each group were briefly summarized in the relevant scientific session by one person (generally one of the authors or Chairman of the session), followed by a discussion between the authors and participants. This arrangement was by and large quite successful and provided an opportunity for every poster to be discussed.

With only one or two exceptions, authors of all the papers presented at the symposium have been quite prompt in sending us their camera-ready manuscripts which are reproduced in these proceedings. Some of the manuscripts had however to be retyped in order to ensure better reproduction. Thanks to the cooperation of many participants and speakers, we have also succeeded in reproducing most of the discussion that took

place during the symposium from written versions of the questions that were submitted to the speakers for filling up the answers.

In keeping with the tradition of IAU symposia, some cultural and social events were also organised during the symposium, giving an opportunity to the participants from abroad to experience the many facets of India. One important event was the special 3-day tour both before and after the symposium, that was taken by many of the participants. The tour took them to the ancient stone-carved temple at Somnathpur, the old princely city of Mysore, the wild life sanctuary at Mudumalai and to the Ooty Radio Telescope located in the picturesque Nilgiri Hills of South India. The trip into the wild life preserve became particularly interesting when some daring astronomers got out of the bus to photograph a herd of wild elephants. They were charged at by the elephants but were fortunately able to rush back to safety just in time !

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