

## PREFACE

IAU Symposium No. 168, "Examining the Big Bang and Diffuse Background Radiations", took place on 1994 August 23-26 at the XXIIInd IAU General Assembly in the Hague, Netherlands.

The meeting attracted a large number -- over 250 -- of astronomers, reflecting the strong interest engendered by the great advances in cosmology made in recent years. There still remains a multitude of unresolved problems in modern cosmology and the symposium offered a salubrious occasion to examine them objectively -- if not altogether dispassionately -- at a place where many leading workers in related fields gathered together.

After the introduction by IAU President L. Woltjer and the historical background by Vice President Virginia Trimble, this volume begins with reviews of the cosmic microwave radiation from COBE (Cosmic Background Explorer). Reviews of recent observations then extend from radio to infrared, visible light, ultraviolet, X-rays and gamma-rays. It is followed by theoretical models for the Big Bang and Inflation, and alternative views to the Big Bang. Following a discourse on Probes and Future Tests, the meeting ended with Panel Discussion on "Major Unsolved Problems of Cosmology". Some forty-four contributed papers -- both oral and poster reports -- are included after the invited talks and panel discussions. Regrettably, manuscripts of some invited reviews and panel talks have not reached us as we went to press in 1995.

Following the lucid reviews on the Hubble parameters, the session chair took a survey of the audience. Apparently, a similar poll had been taken a few years earlier at another meeting on the subject. The results were entirely different this time. The majority voted for the view that we do not know if the Hubble parameter is greater or smaller than 75 km/sec/Mpc. Of the remaining 30-40 percent, most voted for a value greater than 75. Of course, scientific progresses are not made by consensus, but it demonstrated an age-old (but often neglected) wisdom that persuasive and impassioned lectures can greatly influence the views of a body of scientists.

With that caveat in mind, we will be pleased indeed if this volume should assist the readers in forming their own views based on what is currently known and unknown. If their conclusion should turn out to be that we do not yet have answers to a number of cosmological questions, that too will be a satisfactory outcome for this symposium.

We would like to extend our appreciation to the members of the SOC for their contributions, help and support. We would also like to thank the General Assembly LOC for their competent assistance. Mr. John Zhu provided invaluable service in the editing of the present volume.

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Co-editors