

Preface

IAU Symposium 183 on the Cosmological Parameters and the Evolution of the Universe was held from 18 to 22 August 1997 at the IAU General Assembly, Kyoto. The number of participants was more than 600, and was one of the most biggest meeting in the various scientific programs of the General Assembly.

In the last two decades, cosmology showed great developments in the both sides of theoretical and observational researches. This developments was initiated by the research of the early universe including its creation, so-called particle cosmology, and now cosmological observations showed explosive progress. As the result, we can compare theoretical predictions with observations. Discovery of the fluctuations of cosmic microwave background radiation by COBE satellite, which was very consistent with theoretical prediction, was the symbolic example.

The purpose of this symposium is to bring out a state-of-the-art discussion and assessment of cosmology by putting together the latest observational data against theoretical ideas on the evolution of the universe and the cosmological parameters. What are the constraints on the various cosmological parameters due to observations of stellar system, galaxies, the large scale structure and motions of galaxies, the intergalactic medium, the background radiations at the different wavelength, the evidence of dark matter, the distribution of light elements, etc ? How does the standard model cope with these constraints? To what extent any alternative departing from the standard model needed?

This proceedings includes about 30 invited talks including reviews by distinguished researchers and 80 contributed papers by active researchers. In particular, the first paper presented by M. Longair is excellent review on the Cosmological Parameters and the Evolution of the Universe. We hope this proceedings is useful for people who want to know recent development in cosmology. Finally the editor would like to express deepest gratitude to the members of LOC of the IAU General Assembly, and Kyoto local people who could help the proceeding of the symposium on behalf of all participants. By their devoted contribution, we could have fruitful meeting.

For the Organizing Committee,

Katsuhiko Sato

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