

Astronomy in India: A Historical Perspective

Edited by

Thanu Padmanabhan

Indian National Science Academy
Platinum jubilee special volume



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National
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Foreword

The Indian National Science Academy (INSA) was established in January 1935 with the objective of promoting science in India and harnessing scientific knowledge for the cause of humanity and national welfare. The Academy has laid special emphasis on the recognition and promotion of scientific excellence. It has also concerned itself with many societal issues. It has a vigorous international programme. For instance, the Academy is the adhering body in India of the International Council for Science (ICSU) on behalf of the Government of India. Furthermore, it has active bilateral exchange programmes with several sister academies around the world. The Academy has also been involved in the publication of journals, books, special volumes, biographical memoirs, etc.

The Platinum Jubilee events of the Academy were inaugurated by the Prime Minister of India on January 10, 2009 at New Delhi. In addition to new initiatives such as those on Science Policy Study Cell and INSA Archives, several scientific programmes are being organised across the country during the Platinum Jubilee Year. Many special publications on a variety of subjects are also being brought out during the year.

The year 2009 has been declared as the International Year of Astronomy by the United Nations to celebrate the 400th anniversary of the use of telescope by Galileo to study heavenly bodies. Thus, happily, the Platinum Jubilee Year of INSA and the International Year of Astronomy overlap. Therefore, it is appropriate for INSA to bring out a volume on astronomy, both ancient and modern. This volume containing authoritative reviews, edited by Professor T. Padmanabhan, have contributions by leading scientists of the country. Of the six chapters, two deal with ancient traditions of astronomy in India including the development of calculus while the remaining four discuss the contemporary scenario. I hope this volume will both inform and entertain the interested reader.

M. Vijayan
President
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Preface

India has a strong and ancient tradition of astronomy which seamlessly merges with the current activities in astronomy and astrophysics in the country. While the younger generation of astronomers and students are reasonably familiar with the current facilities and the astronomical research, one often notices that they do not have an equally good knowledge of the history of Indian astronomy. This particular volume, brought out as a part of the Platinum Jubilee celebrations of INSA, concentrates on selected aspects of historical development of astronomy in this country.

It is, of course, impossible to do justice in a single volume to this rich and varied topic and hence I needed to make some choices (which obviously will not make everyone happy!). I have tried to combine the ancient with the modern by choosing some representative topics from both eras.

As a result you find two chapters by Balachandra Rao and M.S. Sriram dealing with the development of ancient Indian astronomy and the development of calculus in the form of the ancient Kerala text *Yuktibhasa*. I am sure some of the details in these two chapters will come as a surprise to many young astronomers. The other four chapters are more contemporary. Siraj Hasan, Jayant Narlikar, B.V. Sreekantan and G. Swarup have highlighted the historical development of Optical Astronomy, Relativistic Astrophysics, Space Astronomy and Radio Astronomy, respectively. Here the choice I have made covers one area of theory and three bands of the electromagnetic spectrum in which serious research is going on in this country.

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