
This book is composed of seven articles written by leading scientists in the field. It represents the present state of our understanding of the neutral upper atmosphere, ionosphere, and the processes of solar plasma interaction with Venus. The basis for this remarkable progress has been accomplished due to Veneras 9 and 10 and especially the Pioneer Venus Orbiter spacecraft operated since 1975 which accumulated data at different phases of the solar cycle. That made possible to clarify various physical phenomena related to the structure and composition of the Venus ionosphere, the formation of a bow shock and magnetotail, the MHD flows relevant to variations in the state of magnetization in the ionosphere as well as different modes of current-generated plasma waves and the electric source as a strong candidate for explanation the lightning of Venus. All these data, accumulated and very thoroughly analysed, and theoretical models developed to accomodate the results of observations are reflected in the book.

The book is addressed to planetary scientists and especially to those dealing with problems of aeronomy and the coupling between the Sun and planetary bodies. It can be recommended as a comprehensive source-book to workers in the field, but will also undoubtedly be useful for students with interests in astrophysics and atmospheric sciences.

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The book contains the proceedings of a NATO Advanced Research Workshop on physical processes in hot cosmic plasmas. Although the workshop had an interdisciplinary nature with participants from astrophysics, space plasmas and laboratory plasmas most contributions are on cosmic plasmas with only a few on magnetospheric and laboratory plasmas. The 26 papers can be grouped into the following subjects: (1) shocks including supernova remnants, XUV emission, cosmic-ray acceleration, and plerions; (2) collisional and radiative transport properties of dilute and dense plasmas; (3) cooling flows; (4) cosmic magnetic field generation and reconnection; (5) relativistic pair plasmas.

Considering the breadth of the subject matter the coverage in one book necessarily remains somewhat fragmented. Nonetheless the book contains a large number of excellent introductory reviews. To name but a few I was much impressed by the