

1. Record Nr.	UNINA9910876840103321
Autore	Mendillo Michael
Titolo	Atmospheres in the Solar System: Comparative Aeronomy
Pubbl/distr/stampa	[Place of publication not identified], : American Geophysical Union, 2002
ISBN	1-118-66957-6
Descrizione fisica	1 online resource (ix, 388 pages) : illustrations
Collana	Geophysical monograph, 130 ; ; 9
Disciplina	551.5/0999
Soggetti	Planets - Atmospheres Satellites - Atmospheres
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Note generali	Bibliographic Level Mode of Issuance: Monograph
Nota di bibliografia	Includes bibliographical references.
Nota di contenuto	Machine generated contents note: Preface -- Michael Mendillo, Andrew Nagy, and H. Waiteix -- Introduction -- Michael Mendillo, Andrew Nagy, and H. Waite1 -- I. Overviews -- 1 Aeronomic Systems on Planets, Moons, and Comets -- Darrell F Strobel7 -- 2 Solar System Upper Atmospheres: Photochemistry, Energetics, and Dynamics -- G. Randall Gladstone, Roger V Yelle, and T. Majeed23 -- 3 Solar System Ionospheres -- Andrew F. Nagy and Thomas E. Cravens39 -- 4 Auroral Processes in the Solar System -- Marina Galand and Supriya Chakrabarti55 -- 5 Airglow Processes in Planetary Atmospheres -- T. G. Slanger and B. C. Wolven77 -- II. Interactions Between Planetary and Small Body Atmospheres -- with the Surrounding Plasma Medium -- 1 Magnetosphere-Ionosphere Coupling at Earth, Jupiter, and Beyond -- B. H. Mauk, B. J. Anderson, and R. M. Thorne97 -- 2 Comparison of Auroral Processes: Earth and Jupiter -- J. H. Waite and Dirk Lummerzheim115 -- 3 Numerical Techniques Associated with Simulations of the Solar Wind Interactions -- with Non-Magnetized Bodies -- Stephen H. Brecht141 -- 4 Plasma Flow Past Cometary and Planetary Satellite Atmospheres -- Michael R. Combi, Tamas 1. Gombosi, and Konstantin Kabin151 -- III. Chemistry, Energetics and Dynamics -- 1 Wave Coupling in Terrestrial Planetary Atmospheres -- Jeffrey M. Forbes 171 -- 2 Exospheres and Planetary Escape -- Donald M Hunten191 -- 3 Surface Boundary Layer Atmospheres -- R. E. Johnson203 -- 4 Solar Ultraviolet Variability Over Time Periods of

Aeronomic Interest -- Thomas N. Woods and Gary J. Rottman 221 -- 5 Meteoric Material-An Important Component of Planetary Atmospheres -- Joseph M. Grebowsky, Julianne I. Moses, and W. Dean Pesnell 235 -- 6 Current Laboratory Experiments for Planetary Aeronomy -- David L. Huestis 245 -- IV. Models of Aeronomic Systems -- 1 Simulations of the Upper Atmospheres of the Terrestrial Planets -- Stephen W. Bougher, Raymond G. Roble, and Timothy Fuller-Rowell 261 -- 2 Thermospheric General Circulation Models for the Giant Planets: The Jupiter Case -- G.H. Millward, S. Miller, A.D. Aylward, I. C. F. Miller-Wodarg, and N. Achilleos 289 -- 3 Ionospheric Models for Earth -- R. W. Schunk 299 -- 4 The Application of General Circulation Models to the Atmospheres of Terrestrial-Type -- Moons of the Giant Planets -- I. C. F. Miller-Wodarg 307 -- 5 The Extreme Ultraviolet Airglow of N<sub>2</sub> Atmospheres -- Michael H. Stevens 319 -- V. Observational Applications -- 1 The Application of Terrestrial Aeronomy Groundbased Instruments to Planetary Studies -- Michael Mendillo, Fred Roesler, Chester Gardner, and Michael Sulzer 329 -- 2 Ultraviolet Remote Sensing Techniques for Planetary Aeronomy -- John T. Clarke and Larry Paxton 339 -- 3 Mass Spectrometry for Planetary Science -- David T. Young 353 -- VI. Atmospheres of Other Worlds -- 1 A Possible Aeronomy of Extrasolar Terrestrial Planets -- W. A. Traub and K. W. Jucks 369 -- 2 Can Conditions for Life be Inferred From Optical Emissions of Extra-Solar-System Planets? -- Harald U. Frey and Dirk Lummerzheim 381.

---

Sommario/riassunto

Takes a comparative-studies approach to the study of the solar system, with 25 contributions organized into six sections: overviews; interactions between planetary and small body atmospheres with the surrounding plasma medium; chemistry, energetics, and dynamics; models of aeronomic systems; observational applications; and atmospheres of other worlds. Suitable as an overview for graduate students and new professionals in aeronomy, as well as providing synthesis for veterans in the field, with excellent references to guide further research. Mostly b & w illustrations, with a few color plates. Annotation copyrighted by Book News, Inc., Portland, OR.

---