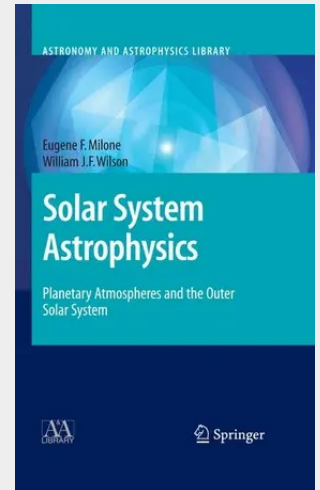


Solar System Astrophysics

Planetary Atmospheres and the Outer Solar System

The book covers the field of solar system astrophysics beginning with basic tools of spherical astronomy and coordinate frames and celestial mechanics. It therefore presents equations and derivations starting from a level that permits one to see the underlying physical ideas. An up-to-date overview on all essential topics is presented, but is concise where possible. The text is based on extensive experience in the classroom and its contents have been field-tested by students for years. The material has been updated in the last few months to take advantage of the newer discoveries of the Mars Rover and the Saturn Cassini missions.

Solar System Astrophysics opens with coverage of the atmospheres, ionospheres and magnetospheres of the Earth, Venus and Mars and the magnetosphere of Mercury. The book then provides an introduction to meteorology and treating the physics and chemistry of these areas in considerable detail. What follows are the structure, composition, particle environments, satellites, and rings of Jupiter, Saturn, Uranus and Neptune, making abundant use of results from space probes. Solar System Astrophysics follows the history, orbits, structure, origin and demise of comets and the physics of meteors and provides a thorough treatment of meteorites, the asteroids and, in the outer solar system, the Kuiper Belt objects. The methods and results of extrasolar planet searches, the distinctions between stars, brown dwarfs, and planets, and the origins of planetary systems are examined. Historical introductions precede the development and discussion in most chapters. A series of challenges, useful as homework assignments or as focusing aids, are presented at the end of each chapter. The contents of Solar System Astrophysics have been field-tested by students for many years. Eugene F. Milone and William J. F. Wilson have written a unique book that presents an up-to-date overview on all essential topics based on extensive experience in the classroom.



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