

## Discovering the Solar System, Second Edition



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The solar system, notably its origin and evolution, has intrigued astronomers for centuries. Since the advent of the space age, much more has become known about the bodies that constitute the solar system. Space-based telescopes have become available, and orbiting spacecraft and landers have enabled an examination of these bodies at close range and at previously inaccessible wavelengths. This accumulation of observational data continues, and we expect to see a surge, given the recent interest in planetary exploration from space agencies around the world.

This vast amount of data, coupled with the inherent multidisciplinary nature of solar system research, makes it challenging for a theoretically self-consistent understanding to be reached. It is therefore equally challenging for any textbook to provide a comprehensive, yet comprehensible, account of the solar system for those who are approaching the subject for the first time. In this regard, *Discovering the Solar System* has done an excellent job.

The book is well structured around themes, which makes it coherent and thus more accessible for those new to the topic. The book is divided into two parts. The first part, comprising chapters 1–3, presents an overview of the solar system, examining its origin and giving an account of small bodies: asteroids, comets, and meteorites. These chapters establish a context in which one may consider the origin and evolution of the planets and their satellites, to which the second part of the book is devoted.

For the planets and their satellites, the author examines their interiors, surfaces, and atmospheres in three subsections. Each subsection starts with a chapter discussing general principles, based on which the processes occurring in regions of interest may be understood. These general principles are followed by discussions of individual bodies, with constant referrals to the general princi-

ples previously introduced and to the theory of the origin of the solar system. As a result, before the reader finishes the book, he or she will have become familiar with some of the general laws and their applications, and with the evolutionary path of the solar system.

In addition to its logical structure, the book is also commendable in its presentation style. From the outset, the reader is assumed to possess an amount of background knowledge in geology, chemistry, and physics equivalent to no more than that of a first-year university student. The author then presents information step by step in the text and avoids calculus altogether. A series of “stop and think” questions is designed to help the reader gain some hands-on experience in applying the acquired knowledge to explain what has been observed, or even to predict what has yet to be observed, in the solar system. The tables, diagrams, and photographs, which are abundant and of high quality, make the text very readable. Moreover, wherever the reader needs help with what appears unfamiliar, the glossary comes to the rescue. The reader may also need to turn to the answers to questions posed at the end of some sections, although he or she is urged to think about these questions beforehand.

In short, this book provides an up-to-date and comprehensive account of what is known about the present and the past of the solar system in a reader-friendly manner. Those approaching the subject for the first time will certainly find the book worth reading. Those who have already acquired more knowledge than assumed by the author will gain a better and deeper understanding from the book.

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