

Titan is Saturn's largest moon. It was discovered by the Dutch Astronomer Christian Huygens in 1655. For almost three centuries thereafter, Titan remained nothing more than a dot of light in the sky. Then, in 1994, Gerard Kuiper discovered that its atmosphere contained methane! It immediately became a world to explore and a destination in the space era.

Titan is shrouded by a thick atmosphere with a blanket of organic haze that hides the surface. The haze is a product of UV photolysis of methane in the upper atmosphere. In the early 80s, Voyager investigated Titan but was unable to see through to the surface. However, Voyager confirmed that the atmosphere served as a big chemical factory producing many complex organic compounds. This made Titan one of the most fascinating bodies in the solar system.

In 1999, while the international Cassini–Huygens mission was on its voyage to Saturn, the authors of this book published their first comprehensive review of the knowledge of Titan. They are two of the scientists most knowledgeable about this fascinating moon of Saturn. As a result of Cassini–Huygens' arrival around Saturn in 2004, and the Huygens probe landing on Titan's surface on January 14, 2005, a giant advance has been made in our understanding of Titan. Thus, it is timely to issue a new textbook. Athena Coustenis and Fred Taylor have come up with a superb revised version of their book. The new edition gives an excellent and up to date account of our knowledge about Titan. It provides a comprehensive review of this peculiar solar system object which bears many similarities to Earth albeit under very different conditions, where methane plays the role that water plays on Earth. The latest results are described and include Earth-based observations, laboratory work and modelling in addition to the Cassini–Huygens observations.

The book tells the history of the exploration of Titan. It includes the most recent ideas about the processes that govern Titan. It shows extremely well the synergy of *in situ* robotic observations and space-based and Earth-based telescopic observations. It also shows the importance of laboratory work and modelling. All of these approaches are needed to make progress in our understanding of Solar System objects. The book is an excellent reference for students with some general background in the field of planetary sciences and for new planetary scientists looking for a comprehensive book on Titan. After reading the book, you may decide to stick with Titan for the rest of your career! The authors of the book are currently active

in the Cassini–Huygens mission and have been involved in Titan research for several decades. They have mentored young scientists who are now Titan researchers themselves.

Titan has become a well-known object in the Solar System. It is the most Earthlike world we know of. This book puts this extraordinary solar system object on our Solar System map for additional exploration. The closing chapter describes new concepts for the future exploration of Titan and gives us an irresistible invitation to return.

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