

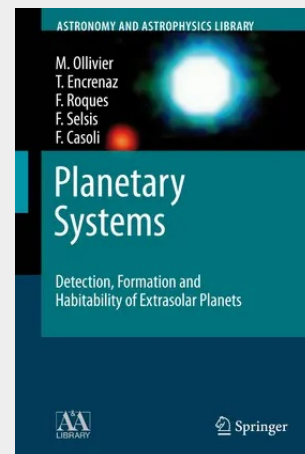
Planetary Systems

Detection, Formation and Habitability of Extrasolar Planets

Over the past ten years, the discovery of extrasolar planets has opened a new field of astronomy, and this area of research is rapidly growing, from both the observational and theoretical point of view. The presence of many giant exoplanets in the close vicinity of their star shows that these newly discovered planetary systems are very different from the solar system. New theoretical models are being developed in order to understand their formation scenarios, and new observational methods are being implemented to increase the sensitivity of exoplanet detections.

In the present book, the authors address the question of planetary systems from all aspects. Starting from the facts (the detection of more than 300 extraterrestrial planets), they first describe the various methods used for these discoveries and propose a synthetic analysis of their global properties. They then consider the observations of young stars and circumstellar disks and address the case of the solar system as a specific example, different from the newly discovered systems. Then the study of planetary systems and of exoplanets is presented from a more theoretical point of view. The book ends with an outlook to future astronomical projects, and a description of the search for life on exoplanets. This book addresses students and researchers who wish to better understand this newly expanding field of research.

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