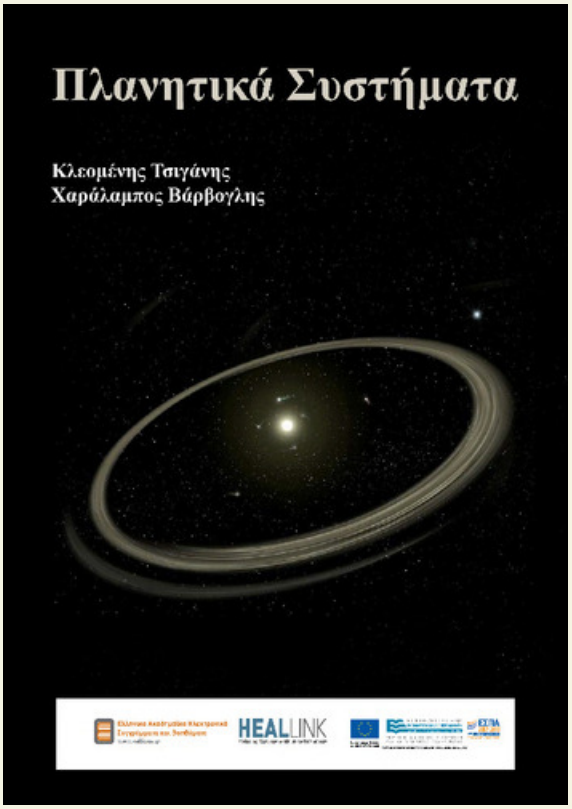

METADATA

Title: Planetary systems

Other Titles: -

Language: Greek

ISBN: 978-960-603-402-2

Subject: NATURAL SCIENCES AND AGRICULTURAL SCIENCES

Keywords: Planetary systems / Solar system

Bibliographic Reference: Tsiganis, K., & Varvoglis, C. (2015). Planetary systems [Undergraduate textbook]. Kallipos, Open Academic Editions. http://dx.doi.org/10.57713/kallipos-763

Abstract

The book deals with the study of planetary systems (and, of course, the solar system), which is one of the most modern research topics in the field of astronomy and astrophysics internationally, following the continuous discoveries of new extrasolar systems and the development of new theories on the dynamic evolution of the solar system. The book describes in detail both the observational data and the basic theory of planet formation and the dynamic evolution of such systems. It is aimed at undergraduate students (4th year) of Physics, but also delves deeper (where appropriate) into concepts that are essential knowledge for a postgraduate student wishing to pursue research in this field. The connection between the study of planetary systems and space missions is emphasized at every opportunity. The book covers the physical and dynamic characteristics of planets and other bodies in the solar system (asteroids, comets) and techniques for observing exoplanets, as well as the classification of planetary systems (based on their orbital and physical characteristics). It also it covers the basic concepts of Celestial Mechanics that are necessary for understanding dynamics, the basic theories of the formation of terrestrial and giant planets, as well as the latest theories of the dynamic evolution and formation of the solar system and extrasolar systems. It should be noted that there is currently no equivalent textbook in Greek, while a corresponding course has only recently been introduced into an undergraduate program in Greece by the main author. Furthermore, it is worth noting that this is the first attempt to write a book and systematically teach subjects related to space exploration (missions) in our country, despite the fact that Greece has been a member of the European Space Agency (ESA) for many years.

The Project is funded by the National Development Programme 2021-2025 of the Ministry of Education and Religious Affairs and implemented by the Special Account for Research Funds of the National Technical University of Athens and the Hellenic Academic Libraries Link.