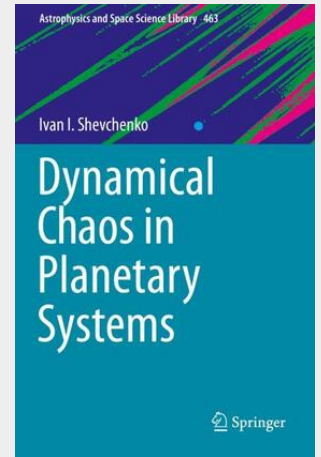


Shevchenko

Dynamical Chaos in Planetary Systems

This is the first monograph dedicated entirely to problems of stability and chaotic behaviour in planetary systems and its subsystems. The author explores the three rapidly developing interplaying fields of resonant and chaotic dynamics of Hamiltonian systems, the dynamics of Solar system bodies, and the dynamics of exoplanetary systems. The necessary concepts, methods and tools used to study dynamical chaos (such as symplectic maps, Lyapunov exponents and timescales, chaotic diffusion rates, stability diagrams and charts) are described and then used to show in detail how the observed dynamical architectures arise in the Solar system (and its subsystems) and in exoplanetary systems. The book concentrates, in particular, on chaotic diffusion and clearing effects. The potential readership of this book includes scientists and students working in astrophysics, planetary science, celestial mechanics, and nonlinear dynamics.

This is the first monograph dedicated entirely to problems of stability and chaotic behaviour in planetary systems and its subsystems. The author explores the three rapidly developing interplaying fields of resonant and chaotic dynamics of Hamiltonian systems, the dynamics of Solar system bodies, and the dynamics of exoplanetary systems. The necessary concepts, methods and tools used to study dynamical chaos (such as symplectic maps, Lyapunov exponents and timescales, chaotic diffusion rates, stability diagrams and charts) are described and then used to show in detail how the observed dynamical architectures arise in the Solar system (and its subsystems) and in exoplanetary systems. The book concentrates, in particular, on chaotic diffusion and clearing effects. The potential readership of this book includes scientists and students working in astrophysics, planetary science, celestial mechanics, and nonlinear dynamics.



192,59 €

179,99 € (zzgl. MwSt.)

Lieferfrist: bis zu 10 Tage

Artikelnummer: 9783030521462

Medium: Buch

ISBN: 978-3-030-52146-2

Verlag: Springer International Publishing

Erscheinungstermin: 01.09.2021

Sprache(n): Englisch

Auflage: 1. Auflage 2020

Serie: Astrophysics and Space Science Library

Produktform: Kartoniert

Gewicht: 587 g

Seiten: 376

Format (B x H): 155 x 235 mm

