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Nota di contenuto	Part I: Origins and Manifestations of Dynamical Chaos -- 1. Chaotic Behaviour -- 2. Numerical Tools for Studies of Dynamical Chaos -- 3. Lyapunov Timescales -- 4. Diffusion Timescales -- 5. Extents of Chaotic Domains -- Part II: Resonances and Chaos in the Solar System -- 6. Defying the Orrery Paradigm: Historical Background -- 7. Rotational Dynamics -- 8. Orbital Dynamics of Minor Bodies -- 9. Orbital Dynamics of Planets -- Part III: Dynamics of Exoplanets -- 10. Exoplanets: An Overview -- 11. Planetary Architecture: Stability, Packing and Ranging -- 12. Effects of Chaotic Clearing in Planetary Systems -- 13. Multiplanet Systems of Single Stars -- 14. Planetary Systems of Multiple Stars -- 15. The Lidov–Kozai Effect: Chaotic Implications -- 16. Epilogue.
Sommario/riassunto	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.
