Special Issue

Advances in Asteroid Dynamics

Message from the Guest Editors

Asteroid dynamics is a critical field within planetary sciences, focusing on the complex gravitational interactions, orbital behaviors, and physical properties of asteroids. These celestial bodies, remnants from the early solar system, allow us to understand planetary formation and evolution. The precise computation and propagation of an asteroid orbit is essential, not only for scientific purpose, but also for planetary protection. Recent advances in asteroid dynamics have been propelled by improvements in observational technology, computational methods, and theoretical models. These developments have provided deeper insights into the mechanisms that govern asteroid behavior, significantly enhancing our ability to predict asteroid trajectories, understand their physical characteristics, and assess potential risks to Earth. The continued progress in the field of asteroid dynamics has opened new frontiers in space exploration and planetary science, such as the testing of new technologies and strategies for asteroid deflection and resource utilization, such as NASA's DART mission, which demonstrated our ability to change an asteroid's trajectory through kinetic impact.

Guest Editors

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