Asteroids IV
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Cutting-edge research on asteroids

Over the past decade, asteroids have come to the forefront of planetary science. Scientists across broad disciplines are increasingly recognizing that understanding asteroids is essential to discerning the basic processes of planetary formation, including how their current distribution bespeaks our solar system’s cataclysmic past. For explorers, the nearest asteroids beckon as the most accessible milestones in interplanetary space, offering spaceflight destinations easier to reach than the lunar surface. For futurists, the prospects of asteroids as commercial resources tantalize as a twenty-first-century gold rush, albeit with far greater challenges than faced by nineteenth-century pioneers. For humanity, it is the realization that asteroids matter. It is not a question of if — but when — the next major impact will occur. While the disaster probabilities are thankfully small, fully cataloging and characterizing the potentially hazardous asteroid population remains unfinished business.

Asteroids IV sets the latest scientific foundation upon which all these topics and more will be built upon for the future. Nearly 150 international authorities through more than 40 chapters convey the definitive state of the field by detailing our current astronomical, compositional, geological, and geophysical knowledge of asteroids, as well as their unique physical processes and interrelationships with comets and meteorites. Most importantly, this volume outlines the outstanding questions that will focus and drive researchers and students of all ages toward new advances in the coming decade and beyond.

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