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Nota di contenuto	Introduction -- Method -- Results: Shapes of Impact Outcomes -- Discussion: Collisional History of Asteroids -- Application: Extremely Elongated Shape of 1I/Oumuamua -- Summary and Future Prospects -- Summary and Future Prospects -- Acknowledgement. .
Sommario/riassunto	This book describes numerical simulations of collisions between asteroids, based on a unique numerical code developed by the author. The code accurately solves the elastic dynamic equations and describes the effects of fracture and friction, which makes it possible to investigate the shapes of impact outcomes produced by asteroid collisions and subsequent gravitational accumulation of fragments. The author parallelizes the code with high parallelization efficiency; accordingly, it can be used to conduct high-resolution simulations with the aid of supercomputers and clarify the shapes of small remnants produced through the catastrophic destruction of asteroids. The author demonstrates that flat asteroids can only be produced by impacts

involving objects with similar mass and low velocity, which suggests that the flat asteroids in our solar system were created in the planet formation era and have kept their shapes until today. The author also shows that asteroid collisions under certain conditions can produce the extremely elongated shape of an interstellar minor body, 1I/*‘Oumuamua*. In brief, the book offers a comprehensive investigation of asteroid impacts and shapes, making it a uniquely valuable resource.
