

101955 Bennu and 162173 Ryugu asteroids – dynamical modelling of trajectories of ejected particles and possibility of transportation of the ejecta to the Earth

Martina Kováčová, Roman Nagy, Juraj Tóth, Leonard Kornoš

101955 Bennu and 162173 Ryugu are NEOs and potentially hazardous asteroids discovered in 1999. Currently, both of them are goals of sample-return missions. OSIRIS-REx spacecraft detected material streaming from asteroid Bennu in January 2019. We study dynamical evolution of test particles ejected from the surface of the asteroids Bennu and Ryugu. In our simulation, we consider simplified model of the Solar System (planets + Moon) and initial velocities of test particles slightly higher than escape velocity. We statistically analyze the results in order to determine probability of transportation of the ejected material to the Earth, which might consequently cause an observable meteor shower event.

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