## Yarkovsky Effect on the Orbital Dynamics of the Asteroid (101955) Bennu

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**Abstract :** Bennu(101955) is a half kilometer potentially hazardous near-Earth asteroid. We analyze the influence of Yarkovsky effect and relativistic effect of the Sun on the motion of the asteroid Bennu. The transverse model is used to compute Yarkovsky force on asteroid Bennu. Our dynamical model includes Newtonian perturbations of eight planets, the Moon, the Sun and three massive asteroid (1Ceres, 2Palas and 4Vesta). We showed the variation in orbital elements of nominal orbit of the asteroid. In the presence of Yarkovsky effect, the Semi-major axis of the orbit of the asteroid is decreases by 350 m over one period of orbital motion. The magnitude of Yarkovsky force is computed. We find that maximum magnitude of Yarkovsky effect on the motion the asteroid Bennu.

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