TRUE ORBITS OF SATELLITES

A. BENCZE[1]   C. NICULIȚĂ[1]   Gh. DELIU[1]

Abstract: The Solar System contains celestial bodies (the Sun, the Moon, and other planets) that are perturbing the uniform motion of a satellite around Earth. Moreover, friction with upper layers of the atmosphere and the solar pressure are also perturbing the movement of a satellite. These perturbations are very small, but taken a long period of time, the impact upon the satellite orbit is significant. This paper proposes a way to calculate the resultant acceleration that acts on the satellite at a given time.

Key words: satellite, orbit, perturbation, gravity, drag, solar pressure.

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[1] Dept. of Mechanics, *Transilvania* University of Brașov.