

Long term evolution of disposal orbits beyond the geostationary ring

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The effect of long term gravitational influence of the Earth, Moon and Sun, together with the Sun radiation effect was studied on randomly generated population of several thousand orbits with perigee heights beyond the geostationary ring. In recent work Breiter (1998) confirmed that the perigee height 300 km above the geostationary radius guarantees the safety of graveyard orbits on the time span of 50 years and indicated the possibility of lower storage orbits if they have small eccentricities and if their lines of apsides coincides with the Earth-Sun line. The present work studies the stability of storage orbits on several hundreds years using a risk-imposing sample identified in above mentioned paper. Numerical investigation is performed by means of the six-order symplectic integrator.

Breiter, S., 1998, *Artificial Satellites*, **33**, 25–29.