The strategy for correcting the geostationary satellite orbit inclination, taking into account the long term inclination evolution under the gravitational potentials of the Sun and the Moon

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The article discusses the strategy for correcting the geostationary satellite orbit inclination for various satellite keeping zones and the periods of the motion cycle of the nodes of the Moon's orbit based on the analysis of solar-lunar gravitational perturbations of the geostationary satellite orbit inclination. The strategy provides for considering the long-period variations in the inclination arising under the gravitational potentials of the Sun and the Moon, depending on the size of the inclination keeping zone, allows choosing the most rational ways of the corrective action and its magnitude, taking into account possible deviations due to long-period and diurnal inclination fluctuations. Using the developed strategy for ballistic support of geostationary satellites control will allow ensuring geostationary satellite inclination keeping in the selected orbital position rationally and with a minimum number of firings.

Keywords: *geostationary orbit, orbit inclination, gravitational potential of the Sun, gravitational potential of the Moon, correction of inclination, strategy for correction of inclination*

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