SPACE TRANSPORTATION SOLUTIONS AND INNOVATIONS (D2)
New missions enabled by Extra-large launchers (8)

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ABOUT POSSIBILITY OF APOPHIS ASTEROID TRAJECTORY DEVIATION BY KINETIC (UNNUCLEAR) IMPACT

Abstract

For measure of more precise definition of Apophis asteroid motion trajectory, it is increased problem actuality of prevention of asteroid collision with Earth. In 2029 Apophis should passed on distance 40 000 km under Earth's sur-face/ In so doing its trajectory alteration in gravity field of Earth can turn out to be so essential that it does not exclude this collision in 2036. Materials given in the paper are showed reveal expediency to deflect before-hand the trajectory of asteroid, in order to exclude the collision in 2036. Main outlines of technical configuration of the space launch system on the base of existing Zenit-3SL launch vehicle with updated, new orbital stage of ki-netic impact to asteroid are presented in the paper. Under deviation of asteroid tra-jectory, it is increased a distance of its overflight miss Earth to lever excluding the collision in 2026. It is showed expediency of repeated impacts to asteroid in the period up to 2029, and then – application of improved impact module up 2036. Meanwhile, whatever explosives do not applicated; impact impulse is transferred mechanically under hit of the module body in asteroid.