

MATERIALS AND STRUCTURES SYMPOSIUM (C2)
Space Vehicles – Mechanical/Thermal/Fluidic Systems (7)

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TECHNICAL APPEARANCE SELECTION OF ACTION MODULE ON THE ASTEROID “APOPHIS”
AND INTEGRATION OF THIS MODULE WITH LAUNCH VEHICLE

Abstract

This report dedicates, to modern researches which are continued new ver- sions development of orbital action modules on the asteroid. Main attention has been centered to module versions which are capable to change the trajectory of asteroid “Apophis” by this means to prevent its encounter with Earth. We propose technical appearance versions of orbital modules for the triple stages of action on asteroid “Apophis”. Module structure of the first stage bases on accepted reliable technical deci- sions. The action impulse of the first stage module is reasonable for exception of asteroid “Apophis” penetration into gravity “trap” under its flight past Earth in 2029. The action module of the second stage is capable to prevent the possible collision of asteroid “Apophis” with magnetic field of Earth and planets and so application of multiple use on-board power-carrieres. The action modules of the third stage, for calculations, should be capable such to change the trajectory of asteroid “Apophis” that it could not threaten by the collision with Earth