
Control of manned space complex flight for mission to asteroid

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Currently the society considers relevant manned missions to asteroids. One of the objectives of the flights to these bodies is to refine their shape, weight, rotation parameters, material composition, their origin; do the analysis of their practical use. Another goal is to protect the Earth from collision with the "dangerous" bodies, which could lead to disaster. The asteroid Apophis belongs to this group. The study proposes the concept of a possible manned mission to the "dangerous" body. We analyzed different ways to impact the asteroid, considered the possible spaceship structures, and suggested the program of the expedition, flight scheme and ship maneuvers near the asteroid. We examine spacecraft flight control issues at different stages of the expedition.

Keywords: human space flight, interplanetary flights, asteroids, asteroid-comet hazard, interplanetary manned spacecraft, interplanetary trajectory, ballistics navigation support, flight control.

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