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A. P. ALPATOV, A. S. PALIY, A. D. SKORIK

AERODYNAMIC SYSTEMS FOR REMOVING SPACE OBJECTS

This paper focuses on the basic data on large inflatable space platforms and their advantages in comparison with conventional designs. Methodical statements and the basic relations for determining conditions of an efficient operation of inflatable thin-walled film structures are presented considering the space environment.

Designs of inflatable thin-filmed space devices for aerodynamic removing large space objects from Earth's orbits developed at the Institute of Technical Mechanics of the National Academy of Sciences of Ukraine and the State Space Agency of Ukraine and patented in Ukraine are reported.

Examples of computations of their basic design parameters from a criterion of a maximal operational effectiveness are given.

Conclusions about the prospects of inflatable thin-walled structures for space technology are presented including applications as devices that reduce terms of ballistic staying large space objects in near-earth orbits.

Keywords: *removing space objects, aerodynamic systems, effects of space environment, basic calculated relations.*

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