MATERIALS AND STRUCTURES SYMPOSIUM (C2)
Specialised Technologies, Including Nanotechnology (8)

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DEVELOPMENT OF CONCEPTION OF THE USE OF ENERGY OF EXTERNAL MAGNETIC-FIELD FOR PROVIDING OF LONG DURATION SPACE MISSIONS

Abstract

Theoretical grounds and designer chart of propulsion functioning in the magnetic field of space are presented in a lecture. Thus the descriptions of co-operating of propulsion differentiate with the magnetic field in the ionized environment and in magnetic field without the ionized environment. In circumterrestrial space to the heights of = 60 000 kilometres, there is a zone of the ionized environment and presence of magnetic-field In this zone traction of propulsion is determined on the known methods presented, for example, in works of scientists R. Forward and R. Hoyt. In a lecture the features of functioning of propulsion in a magnetic environment, task of surface and flying tests of the experienced constructions, tying up, are presented with the orbitals stages. The estimation of winning of mass of side block fuel is conducted for expeditions on Moon and Mars. The variants of placing of the experienced constructions of such propulsion are shown on the platform of rocket-carrier " Dnepr", in case of decision-making about verification of their efficiency directly at start on a circumterrestrial orbit. Such propulsion can be applied in composition the orbital stage, containing the affecting modules asteroid of pophis, and also in facilities of cleaning of circumterrestrial in space from space debris. Possibility to be accelerated and slowed in the process of flight without the expense of side working body is substantial advantage of the variants of propulsion examined in this lecture. Presented break-down of economic expenses at creation of experimental object of propulsion.