

ADAPTIVE DRIVE FOR SPACE TECHNOLOGY– DRIVE OF SOLAR PANEL

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Abstract: The adaptive vibration drive of solar panel contains input carrier, output carrier, input satellite, input epicycles gear, output satellite and the internal block with two sun gears. In each block, gears are connected by an elastic shaft. During operation, the elastic shafts transmit vibrational fluctuations to the output carrier. The vibration drive provides reliable overcoming operational overloads. The test-bed contains the motor connected through a compound shaft with the adaptive drive of the solar panel, torque measuring instruments at the exit of the electric motor and an angle of rotation of a shaft. The technical result consists in increase in accuracy of modeling of influence of the solar panel with the drive on the spacecraft. In the proposed work, a vibration drive is synthesized according to a given vibrational action, design and simulation of adaptive drive. The work is based on the laws of mechanics.