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MATHEMATICAL MODEL FOR ESTIMATION OF MOTION PARAMETERS FOR THE ONBOARD EXTENSION OF GLONASS FUNCTIONS

The article deals with a mathematical model of the reverse problem of motion with the goal to estimate the parameters of the trajectory and spatial orientation of a moving object, i.e. location; Euler-Krylov angles, their derivatives with respect to time, as well as the forces and moments determining the trajectory. It is shown, that a vector newtonometer and a block of two receivers of the satellite navigation system are sufficient to solve the problem. The results of the computational experiment for supersonic motion are presented.

Keywords: reverse trajectory problem, motion parameters, satellite navigation system, forces, moments.

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