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ESTIMATION OF ADEQUACY OF MATHEMATICAL MODELING DYNAMICS OF SPACE TETHER SYSTEM WITH TWO END BODIES STABILIZED BY ROTATION

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The study focuses on the estimation of the adequacy of mathematical modeling the dynamics of the space tether system (STS) with two end bodies, stabilized by rotation, and formula for calculating the system motion parameters to analyze an orbital relative motion and that of the end bodies in reference to the corresponding coordinate systems. A new approach to the estimation of a mathematical description of the system motion is offered. Practical importance of the work involves a high-quality representation of the dynamics of the rotating STS considering the influence of the end-bodies dynamics that is critical for developing the advanced STS.

Keywords: *space tether systems, mathematical model, stabilized by rotation, end bodies, energy of motion.*

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