

EXPERIMENTAL VERIFICATION OF THE MATHEMATICAL MODEL OF TRANSPORT SYSTEMS

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This issue deals with the minimization of dangerous vibrations occurring in mechanical systems. The main goal of the work is to create a mathematical model that describes a real mechanical system and then verify it. The work describes the methods for dynamic calculation, namely the method of partial frequencies according to Rivin and the tabular method according to Holzer. Methods were used for mass reduction and calculation of natural frequencies and mode shapes. One of the selected systems was experimentally verified in the Torsional Oscillation Measurement and Tuning Laboratory. The simulation model and the experimental model differ by a small margin. During the development of the work, the MATLAB simulation program was used, and the results were also compared with professional publications. Calculations and analyzes led to conclusions and recommendations for the scientific and practical area of the issue.