Verification of Numeric Solution by Experiment for Examination Vertical Oscillation of a Mechanical System

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The paper dealt with the influence of geometric asymmetry on the vertical vibration of symmetrically or asymmetrically loaded mechanical system. The system is composed of rigid flexibly linked elements. Kinematic excitation was carried out by a unit jump (jump of the springs), excitation of system was symmetric and asymmetric. The system of elements was examined experimentally and numerically. The numerical model was verified by experimental solution. Numerical solutions were carried out by finite element method (FEM) applied to model that respected the design and conditions of the laboratory model for experimental investigations. The aim of the work was to create a numerical model based on the finite element method and to verify the results of the model. The obtained results can be applied to flexible storage machines.

Keywords: mechanical system, oscillation, unbalance, excitation

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