ABSTRACT

New Theory of Rotor Dynamics: Disk Rotor Dynamics with Static Unbalance Taking info Account Aerodynamic Drag Forces

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This article continues to present principles of a new "inertial" rotor dynamics theory considered any rotor moment of inertia changing (which is caused by rotor shift comparatively rotation axis) as a disturbing factor that resists the rotor rotation. The article analyzes aerodynamic resistance influence on the static unbalance rotor dynamics. Loading diagram of forces and torques with effect on rotor and rotor dynamics equation are presented in the article. Specific research is dedicated to questions related to equation rotor rotation and physical meaning of the rotor rotation process.

Keywords: Dynamics, Rotor, Unbalance, Shaft, Support