

An Analysis of Rotor System Dynamics Using Properties of Separate Rotors, Obtained by FEM Softwares

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ABSTRACT

The paper presents a combined approach to the computation of rotor system lateral vibrations. For the parts of the rotor system, i.e. separate rotors, the problem is solved in the full 3-D formulation by FEM software; the results are used in the 1-D program for simulation of rotor system dynamics. The paper includes a description of the algorithm, a consideration of some important particular cases and examples of computation for large turbogenerators.

Keywords: rotor system dynamics, 1-D, 3-D formulation