World Academy of Science, Engineering and Technology
International Journal of Aerospace and Mechanical Engineering
Vol:9, No:12, 2015

Condition Monitoring for Controlling the Stability of the Rotating Machinery

Authors : A. Chellil, I. Gahlouz, S. Lecheb, A. Nour, S. Chellil, H. Mechakra, H. Kebir

Abstract : In this paper, the experimental study for the instability of a separator rotor is presented, under dynamic loading response in the harmonic analysis condition. The analysis of the stress which operates the rotor is done. Calculations of different energies and the virtual work of the aerodynamic loads from the rotor are developed. Numerical calculations on the model develop of three dimensions prove that the defects effect has a negative effect on the stability of the rotor. Experimentally, the study of the rotor in the transient system allowed to determine the vibratory responses due to the unbalances and various excitations.

Keywords : rotor, frequency, finite element, specter
Conference Title : ICMMAE 2015 : International Conference on Mechanics, Mechanical and Aerospace Engineering
Conference Location : Istanbul, Türkiye
Conference Dates : December 21-22, 2015