Abstract

The aim of this paper is to study the application of model predictive controller for improving stability of rotor and rotor vibration. Rotor vibrations in electrical machines are dampen out by model predictive control algorithm. The controlled system is the one dimensional Jeffcott-rotor. Model predictive control algorithm was designed, and the simulation results were obtained by Matlab software tools. Model Predictive Control (MPC) refers to a class of algorithms that compute a sequence of manipulated variable adjustments in order to optimize the future behavior of a plant. In this paper the controlled output of rotor by MPC is further compared with output of same rotor with PID controller.

References

Index Terms

Computer Science
Control Systems

Keywords
active control of rotor vibration  model predictive control  rotor  PID controller