Abstract

This paper presents a computational methodology to monitor and diagnose electrical faults in large machines, like turbogenerators. To accommodate monitoring requirements, a mathematical model for the turbogenerator is derived based on the magnetic coupled approach. The turbogenerator stator and rotor currents were the guides in fault diagnosis. Digital Signal Processing techniques were applied for current feature detection and recognition. Results obtained show that such approach of condition monitoring initiates necessary alarms to the operator, as the faults develops, which may help in preventing catastrophic failures of the turbogenerators.


- Statistics toolbox for use with MATLAB, version 2, Mathworks, March 1996.

**Index Terms**

Computer Science  
Power Systems

**Keywords**

On-line monitoring  
Turbogenerator modeling  
Data base creation  
Diagnostic.