Abstract

This paper discusses a novel method for motor fault detection under varying load conditions. Winding Function Approach (WFA) is used to develop a mathematical model to provide indication references for parameters under different load levels and different fault situations. Broken bar defects reference indexes are developed to assess rotor fault severity based on stator current and rotor speed. Stator current and rotor speed are used to demonstrate correlations between these parameters and broken rotor bar severity. Simulations and experimental results confirm the validity and effectiveness of the proposed approach.

References

- Patton, R. J. and Chen, J. "On-line residual compensation in robust fault diagnosis of dynamic systems," in IFAC Symp Artificial Intelligence in Real-time Control,


Index Terms

Computer Science

Applied Sciences
Keywords
Induction machine  WFA  mathematical model  broken bar