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International Journal of Computer Applications

© 2012 by IJCA Journal

Volume 50 - Number 17

Year of Publication: 2012

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10.5120/7863-1125

{bibtex}pxc3881125.bib{/bibtex}

## Abstract

The fault diagnosis and prediction of electrical machines and drives has become of importance because of its great influence on the operational continuation of many industrial processes. Correct diagnosis and early detection of incipient faults avoids harmful, sometimes devastating, consequences. In this work, on the basis of a model of an induction motor we study the approach for the detection of broken rotor bars problem using residual generators based in moving horizon estimator of the rotor resistance. Which the detection is based is that the failure events are detected by jumps in the estimated parameter values of the model. Upon breaking a bar the estimated rotor resistance is increased instantly, thus providing two values of resistance after and before bar breakage. Simulation and experimental results show the effectiveness of the proposed method for broken rotor bar detection in induction motors.

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Computer Science

## Index Terms

Power Systems

**Keywords**

Fault diagnosis   Moving horizon estimator   Induction motors   Residual generators  
Rotor resistance