Abstract

In this work we propose the air-gap torque as failure signature to detect mechanical faults in particular the eccentricity. In this way, we compare the proposed signature with those most used recently in particular the current space vector (Park vector) and complex apparent power. This signature is subsequently analysed using the classical fast Fourier transform (FFT). The magnitudes of spectral components relative to the studied fault are extracted in order to develop the input vector necessary for the pattern recognition tool based on support vector machine (SVM) approach with an aim of classifying automatically the various states of the induction motor.

References

Support Vector Machine-based Decision for Induction Motor Fault Diagnosis using Air-Gap Torque Frequency Response


Index Terms

Computer Science

Power Systems

Keywords

Induction motor fault diagnosis eccentricity fault air-gap torque support vector machine.