

Online Electric Current Based Diagnosis of Stator Faults on Squirrel Cage Induction Motors

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Abstract : In the present paper, five electric current based methods to analyze electric faults on the stator of induction motors (IM) are used and compared. The analysis tries to extend the application of the multiple reference frames diagnosis technique. An eccentricity indicator is presented to improve the application of the Park's Vector Approach technique. Most of the fault indicators are validated and some others revised, agree with the technical literatures and published results. A tri-phase 3hp squirrel cage IM, especially modified to establish different fault levels, is used for validation purposes.

Keywords : motor fault diagnosis, induction motor, MCSA, ESA, Extended Park's vector approach, multiparameter analysis

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