Vibration for detection and diagnosis bearing faults using adaptive neurofuzzy inference system

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Abstract: The fault diagnosis of electrical machines is a primordial and necessary task in industry. Thefailure is unbearable because it causes, incontestably, decrease in production and increases costrepair. Induction motors are the most important equipment in industry, where reliability andsafe operation is desirable, for maintenance, such as detection, and diagnosis of mechanical andelectrical defects of electric drives. The several techniques are adopted and frequency analysis isthe most widely used. Artificial intelligence techniques was gained popularity last decay's innumerous applications. The presented results show the detected and diagnosed, of the bearingfaults of the induction motor, based on Adaptive Neuro-Fuzzy Inference System. The vibrationsanalysis of the induction machine using the Artificial Intelligence Techniques, combining neuralnetworks and fuzzy logic has been applied successfully. The designed ANFIS network showsabout 99% accurate results as validated by Mat lab / Simulink simulation

Keywords : diagnosis, fault, vibration, bearing