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Motor Gear Fault Diagnosis by Measurement of Current, Noise and Vibration on AC Machine

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Abstract : Lots of motors have been being used in industry. Therefore many researchers have studied about the failure diagnosis of motors. In this paper, the effect of measuring environment for diagnosis of gear fault connected to a motor shaft is studied. The fault diagnosis is executed through the comparison of normal gear and abnormal gear. The measured FFT data are compared with the normal data and analyzed for q-axis current, noise and vibration. For bad and good environment, the diagnosis results are compared. From these, it is shown that the bad measuring environment may not be able to detect exactly the motor gear fault. Therefore it is emphasized that the measuring environment should be carefully prepared.

Keywords : motor fault, diagnosis, FFT, vibration, noise, q-axis current, measuring environment
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