

Multiple Fault Detection and Classification in a Coupled Motor with Rotor Using Artificial Neural Network

Authors : Mehrdad Nouri Khajavi, Gollamhassan Payganeh, Mohsen Fallah Tafti

Abstract : Fault diagnosis is an important aspect of maintaining rotating machinery health and increasing productivity. Many researches has been done in this regards. Many faults such as unbalance, misalignment, looseness, bearing faults, etc. have been considered and diagnosed with different techniques. Most of the researches in fault diagnosis of rotating machinery deal with single fault. Where as in reality faults usually occur simultaneously and it is, therefore, necessary to recognize them at the same time. In this research, two of the most common faults namely unbalance and misalignment have been considered simultaneously with different intensity and then identified and classified with the use of Multi-Layer Perception Neural Network (MLPNN). Processed Vibration signals are used as the input to the MLPNN, and the class of mixed unbalancy, and misalignment is the output of the NN.

Keywords : unbalance, parallel misalignment, combined faults, vibration signals

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