

An Effective Method for Bearing Faults diagnosis

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Abstract: The bearings are the most important mechanical elements of rotating machinery. They are employed to support and rotate the shafts in rotating machinery. An unexpected defect of the bearing may cause significant economic losses. For that reason, the condition monitoring of these bearings has become a fundamental axis of development and industrial research. The focus of this paper is to combine two conventional methods: Hilbert Transform (HT) and Discrete Wavelet Transform (DWT) to develop a better method for detection and diagnosis of bearing faults. This new method applied on real measurement signals collected from an experimental vibration system. The monitoring results indicate that the proposed method improves the bearing faults diagnosis compared to other common techniques.

Keywords : Vibration analysis, bearing Fault diagnosis, Hilbert Transform (HT), Envelope Analysis (EA), Discrete Wavelet Transform (DWT), Fast Fourier Transform (FFT)