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An Effective Method for Bearing Faults diagnosis

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Abstract: The bearings are the most important mechanicalelements of rotating machinery. They are employed to supportand rotate the shafts in rotating machinery. An unexpected defectof the bearing may cause significant economic losses. For thatreason, the condition monitoring of these bearings has become afundamental axis of development and industrial research. Thefocus of this paper is to combine tow conventional methods:Hilbert Transform (HT) and Discrete Wavelet Transform (DWT)to develop a better method for detection and diagnosis the bearingfaults .This new method applied on real measurement signalscollected from an experimental vibration system. The monitoringresults indicate that the proposed method improves the bearingfaults 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)