

Combination between STFT and DWT for Fault Detection and Diagnosis in Rotating Machinery by Vibration Monitoring

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Abstract : Signal analysis with fixed time-frequency resolution, such as the Short-Time Fourier Transform(STFT), is a common tool for many industrial applications in rotating machinery condition monitoring allowing effective implementation via the Fast Fourier Transform (FFT).However, the fixed time-frequency resolution of the STFT can lead to the undesirable smearing of events in both timeand frequency. In this paper, we propose a combination between STFT and DWT for the faults detection and diagnosis in a rotating machine. An implementation procedure for the fault detection and diagnosis in rotating machinery at real-time has been presented out in this paper. The experimental results confirm that this procedure serves as a good tool to fault detection and diagnosis in rotating machinery.

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