

A Comparative Study of Various Methods of Bearing Faults Diagnosis Using the Case Western Reserve University Data

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Abstract: Bearing is probably one of the most critical components of rotating machinery. They are employed to guide and support the shafts in rotating machinery. Therefore, any fault in the bearings can lead to losses on the level of production and equipments as well as potentially unsafe. For these reasons, the bearing fault diagnosis has received considerable attention from the research and engineering communities in recent years. The purpose of this study is to review the vibration analysis techniques and to explore their capabilities, advantages, and disadvantage in monitoring rolling element bearings.

Keywords : Vibration analysis, bearing Fault diagnosis, Temporal analysis, Cepstrum analysis, Envelope analysis, Wavelet transform