

# Application of Wavelet Transform for Inner Race Fault (IRF) Diagnosis in Bearings of Rotating Machines

**"A. BOUDIAF, A.K. MOUSSAOUI, S. Taleb, D. Idiou, R. BOULKROUNE**

**Abstract :** On-line vibration monitoring of Rotary Machines is a fundamental axis of development and industrial research. Its purpose is to provide knowledge about the working condition of machines at each moment without stopping the production line. This method allows avoiding the production losses related to breakdowns and reducing overall maintenance costs. Bearing fault diagnosis is important in vibration monitoring of any rotating machine. Early fault detection in machineries can save millions of dollars in emergency maintenance cost. In this paper we are interested to the vibration signal processing by Application of Wavelet Transform for Inner Race Fault (IRF) Diagnosis in bearings, the suggested Technique is applied to real vibratory signals obtained from the Case Western Reserve University Bearing Data Centre. From the monitoring results, the effectiveness of the Wavelet Transform method was proven.

**Keywords :** Vibration analysis, Fault Diagnosis, Rotating machines, Wavelet transform, Envelope Detection