

Automating and Optimization Monitoring Prognostics for Rolling Bearing

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Abstract : This paper presents a continuous work to detect the abnormal state in the rolling bearing by studying the vibration signature analysis and calculation of the remaining useful life. To achieve these aims, two methods; the first method is the classification to detect the degradation state by the AOM-OPTICS (Acousto-Optic Modulator) method. The second one is the prediction of the degradation state using least-squares support vector regression and then compared with the linear degradation model. An experimental investigation on ball-bearing was conducted to see the effectiveness of the used method by applying the acquired vibration signals. The proposed model for predicting the state of bearing gives us accurate results with the experimental and numerical data.

Keywords : bearings, automatization, optimization, prognosis, classification, defect detection

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