

Bearing Fault Diagnosis Using De-noising Techniques Based on EMD Combined with Coefficients Correlation

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Abstract- The vibration signals of a rolling bearing contain important information which can be used in early defect detection and diagnosis. This signal is usually noisy and the information about the fault can be lost. In this paper, a new denoising method based on Empirical Mode Decomposition Iterative Interval Thresholding and estimation of correlation coefficient (EMD-corIIT) is presented. The results are compared with others proposed methods. The application of this technique to the experimental results shows that this method can extract effectively the fault features of rolling bearing compared with the others cited methods.

Keywords: Denoising, EMD, Thresholding, Vibration Signal, Bearing Fault, Correlation Coefficients