

2018

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

**Omar Fethi BENAOUA, Rabah ABDELKADER, Abdelhafid KADDOUR,
Ziane DEROUCHE**

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 the 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