Vibration Signal Denoising using Neighbourhood and Parent-Child Relationship of Wavelet Transform Coefficients

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Abstract

A method based on intra-scale and inter-scale dependency of coefficient of stationary wavelet transform has been developed for vibration signal denoising. In this paper, features of Stationary Wavelet Transform are revised by comparing it to Discrete Wavelet Transform. Proposed denoising method is simulated for different noise values and results are compared to other denoising methods. Proposed method is used for treatment of practical signals to confirm that the proposed method is suitable and efficient in improving the SNR of the vibration signal and in processing the original information by retaining its shape.

References


5. Yaguo Lei, Jing Lin, Zhengjia He, Ming J. Zuo, “A review on empirical ode decomposition in fault diagnosis of rotating machinery” oct. 2012.


13. Li Zhen, He Zhengjia, Zi Yanyang#, Wang Yanxue# “Cutomized wavelet denoising using intra and inter scale dependency for bearing fault detection” school of mechanical engineering, Xian Jiaotong University, 710049, China, accepted 17 November 2007.

Index Terms

Computer Science Signal Processing

Keywords

De-noising, Vibration signal, Wavelet Transform, Parent-child relationship, Neighbourhood