Abstract

This paper concentrates on cavitation detection using discrete wavelet transform by classifying the pump vibration signal. Vibration signal acquired from centrifugal pump cavitation test rig carry more information about the cavitation classes. In this paper two classes has been defined namely, no cavitation class and developed cavitation class. This method uses the deviation from zero mean value of detailed components of wavelet coefficients, obtained from five level decomposition of vibration signal to detect the signal belongs to normal class or cavitation class in centrifugal pump. The main advantage of this proposed algorithm is it requires no training. In addition to this advantage a more robust results show that this algorithm has better detection response.

References

Classification of Vibration Signal to Detect Pump Cavitation using Discrete Wavelet Transform


Index Terms

Computer Science Signal Processing
Keywords
Cavitation  Cavitation test rig  Discrete Wavelet Transform  Decomposition Levels