

Fengtao Wang

Personal Information

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Educational Background

2003 Ph.D Mechanical Engineering, Dalian University of Technology, China
2000 M.S. Mechanical Engineering, Jilin University of Technology, China
1997 B.S. Mechanical Engineering, Jilin University of Technology, China

Work Experience

12/2007- Present: Associate Professor, Director of Research Institute of Vibration Engineering, School of Mechanical Engineering, Dalian University of Technology, Dalian, China.

Primary course: “Mechanical Dynamics” for graduate students, “Equipment Monitoring and Fault Diagnosis” and “Modern engineering design and analysis software” for senior students.

Graduate students: 11 MSc, 3 PhD.

10/2006- Present: Director of Research Institute of Vibration Engineering, School of Mechanical Engineering, Dalian University of Technology.

11/2003-12/2007: Lecturer in Research Institute of Vibration Engineering, School of Mechanical Engineering, Dalian University of Technology.

Research Interests

Mechanical Fault Detection, Diagnostics and Prognostics. Remote Monitoring and Intelligent Diagnosis Systems. Pattern Recognition.

Selected Publications(over 40 publications in referred journal and conferences)

1. Wensheng Su, Fengtao Wang, etc. Rolling Element Bearing Faults Diagnosis Based on Optimal Morlet Wavelet Filter and Autocorrelation Enhancement. Mechanical Systems and Signal Processing. 24(5), 1458-1472, 2010.

2. Fengtao Wang, Liang Zhang, etc. Order Tracking of Wind Power Gearbox Vibration Signal Based on SVD Noise Reduction and IFE. 2010 International Conference on Computer and Computational Intelligence, 2, 571-575, 2010.

3. Fengtao Wang, Wensheng Su, etc. Research on EMD Noise Reduction Methods Applied in Signal Processing of Rolling Bearings. 2010 International Conference on Computer and Computational Intelligence, 2, 606-609, 2010.

4. Wang Fengtao, Zhang Liang, etc. Research and development of on-line monitoring network system of the piston pump. Chinese Journal of Scientific Instrument. 31(8), 232-235, 2010.
5. Wang Fengtao, Li Haifeng, etc. Research and development of function detecting system of the high-speed gearbox. Chinese Journal of Scientific Instrument. 31(8), 236-239, 2010.
6. Wensheng Su, Fengtao Wang, etc. Application of EMD denoising and spectral kurtosis in early fault diagnosis of rolling element bearings. Journal of Vibration and Shock, 29(3), 18-21, 2010.
7. Lei Wang, Fengtao Wang, etc. Empirical mode decomposition based on kernel principal component analysis with application. Journal of Vibration and Shock, 29(2), 40-68, 2010.
8. Jianguo Chen, Fengtao Wang, etc. Independent component analysis based sub-band in time-frequency images and it's application in fault diagnosis. Journal of Vibration and Shock, 29(2), 189-192, 2010.
9. Cheng Jianguo, Wang Fengtao, etc. Study and Application in Independent Component of Dependent Sources. Chinese Journal of Scientific Instrument. 31(4), 32-35, 2010.
10. Wang Fengtao, Song Lutao, etc. Fault Test System for Air Compressor Valve Based on P-V Indicator Diagram. Chinese Journal of Scientific Instrument. 31(4), 84-87, 2010.
11. Fengtao Wang, Lutao Song, etc. Fault Diagnosis for Reciprocating Air Compressor Valve Using P-V Indicator Diagram and SVM. Third International Symposium on Information Science and Engineering(ISISE), Shanghai, China. Dec. 24 - 26, 2010.
12. Fengtao Wang, Lutao Song, etc. The Column Model Optimization of High-precision CNC Machining Center HMD50. The Third International Conference on Modeling, Simulation and Optimization(CMSO), Beijing, China. December 25-26, 2010.
13. Fengtao Wang, Lei Wang, etc. The Study of Rotor Fault Diagnosis Based on Optimized KPCA. 3rd International Workshop on Computer Science and Engineering (WCSE), Ganzhou, China. December, 25 - 27, 2010.
14. Fengtao Wang, Junlong Zhao, etc. Fault Diagnosis of Reciprocating Compressors by Cyclostationary Feature Analysis. 3rd International Workshop on Computer Science and Engineering (WCSE), Ganzhou, China. December, 25 - 27, 2010.
15. Jianguo Chen, Fengtao Wang, etc. Application of Improved ICA & HHT in Fault Diagnosis of Rotors, Chinese Journal of Mechanical Engineering. 20(17):2059-2062, 2009.
16. Fengtao Wang, Jianguo Chen, Xiaojiang Ma, etc. The Study of Feature Extraction Using Local Energy of Frequency Bands Based on Wavelet Packet Decomposition, IEEE 3rd International Conference on Natural Computation, Haikou, Hainan, China, 24-27, Volume III: 167-170 , August 2007.
17. Fengtao Wang, Xiaojiang MA . New Method for Feature Extraction of Local Energy in Joint Time-Frequency Analysis Based n Local Wave Approach, 7th

international Symposium on Test and Measurement(ISTM), Beijing China, Volume 5: 4055-4057, August 5-8 2007.

18. Fengtao Wang, Xiaojiang Ma, Yong Zhang. End effect processing method of local wave decomposition. The 7th Youth Conference of China Instrument and Control Society, 28(8), 922-925, 2007.

19. Fengtao Wang, Xiaojiang Ma, Yong Zhang. Research on fault diagnosis method based on local wave method-rough sets theory-NN. Chinese Internal Combustion Engine Engineering, 28(2), 80-84, 2007.

20. Fengtao Wang, Xiaojiang Ma. Design of performance testing and fault diagnosis system for motorcar gear-box. Chinese Journal of Scientific Instrument, 27(6), 382-400, 2006.

Selected Current Research Support(for the past four years)

1. Research on early fault diagnosis of MW-class wind turbine gear box, The key project of Ministry of Education, 2009.01 to 2010.12, Total funding: 100,000 RMB.

2. "Research on Technology of Gear Transmission of High-speed train " sub-topic - Development of High-speed Train Gear Transmission Performance Examining System, CSR Qishuyan Institute, 2009-8 to 2010-12, Total funding: 400,000 RMB.

3. "High-end CNC machine tools and basic manufacturing equipment" sub-topics - Research and optimum design of precision vertical and horizontal machining center, the State Ministry of Industry and Information Technology major projects, 2009-3 to 2010-12, Total funding: 550,000 RMB.

4. Multi-agent Intelligent Fault Diagnosis Method with Application to Reciprocating Compressor On-line Monitoring System, the Fundamental Research Funds for the Central Universities, 2010-01 to 2011-12, Total funding: 100,000 RMB.

5. The Development of the Online Monitoring System for K202/C Reciprocating Compressor, Commissioned by the company, Sinopec Beijing Yanhua Branch, 2009-11 to 2010-12, Total funding: 780,000 RMB.

6. Research on Local wave method and its application, The National Natural Science Foundation, 2005-01 to 2007-12, Total funding: 200,000 RMB, The main participants.

7. Noise control for styrene-butadiene operating room, Commissioned by the company, Sinopec Beijing Yanhua Branch, 2009-11 to 2009-12, Total funding: 480,000 RMB.

8. Development of pump-online monitoring system, Commissioned by enterprises, Petrochina Daqing Branch, 2009-11 to 2010-12, Total funding: 150,000 RMB.

9. Development of key equipment condition monitoring and fault diagnosis (expert systems) for the power on the Sea, Commissioned by the company, Sinopec, 2009-8 to 2009-12, Total funding: 100,000 RMB.

10. Reform network-based fault diagnosis system of equipment, Commissioned by the company, Sinopec Beijing Yanhua Branch, 2007-05 to 2008-12, total funding: 480,000 RMB.

11. Performance Measurement System for Automotive Drive Axle , The Bridge branch of China FAW, 2007-05 to 2008-12, Total funding: 270,000 RMB.