

检索证明

经检索, 以下 1 篇文献被《EI-Compendex》数据库收录的简要信息摘选如下:

1. Research on Motor Operation State Fault Monitoring and Diagnosis by LBP-SVM

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Author affiliation: (1) College of Electromechanical Engineering, Anyang Vocational and Technical College, Anyang; 455000, China

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特此证明

(详细内容见附件)



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1. Research on Motor Operation State Fault Monitoring and Diagnosis by LBP-SVM

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Abstract: With the wide application of intelligent devices, the motor as the main power output device has an important impact on the use and development of intelligent devices. At present, the motor equipment is mostly used in experimental environments or construction sites, the working environment is more complex and cannot carry out basic diagnosis of conventional fault operation. The research adopts the detection method of time-frequency thermogram, selects the best wavelet base to obtain the wavelet time-frequency two-dimensional image, and then carries out Tamura texture feature extraction on the best time-frequency image, strengthens the time-frequency image features by using the local binary feature extraction, as well as analyzes the diagnostic experiments on the motor faults by using the support vector machine. Finally, the experimental results conclude that the correct rate of fault detection has reached more than 93.7% when the value of LBP is 2. The average accuracy of SVM and PNN classification algorithms for motor fault detection are both high to more than 90%, but the accuracy and reconciliation average of SVM classification algorithms for motor fault diagnosis are higher than that of PNN classification algorithms, which proves that the motor fault classification and recognition model based on LBP-SVM has the superior performance, and can provide theoretical reference and technical support for future motor fault early warning monitoring and adaptation of the operating environment. © 2024. The Author(s).

Number of references: 20

Main heading: Controllers

Controlled terms: ['Wavelet time-frequency transformation', 'Tamura texture features', 'Image processing']

Uncontrolled terms: ['Local binary features', 'Support vector machine']

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