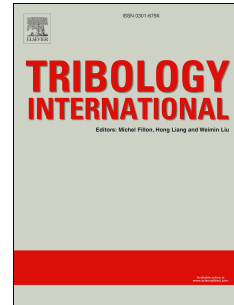


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Investigation about journal bearing wear effect on rotating system dynamic response in time domain

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Abstract

Analysis of vibration signal plays a fundamental role in fault diagnosis and monitoring of rotating machines. Diagnosis, identification and evaluation of bearing faults are critical aspects for a healthy operating system. Among bearing failures, wear is one of the most common, directly affecting the bearing clearance, resulting in changes of the rotating system characteristics. Therefore, time response of a rotor-bearing system, under different worn bearing condition, is analyzed in order to define a general vibration behavior that characterizes the presence of bearing wear. Spectrum response is used to compare healthy and worn bearings. Experimental tests were performed to validate the numerical findings. Results show a standard tendency in dynamic behavior related to the backward component of the shaft whirling movement.

Keywords: *Hydrodynamic Bearings Wear, Time Response, Condition Monitoring, Fault Identification and Isolation.*

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