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”FDP1#4 - Study of bearing fault detectability on a rotating machine by vibro-acoustic characterisation as a function of a noisy surrounding machine”

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In a context study linked to the preventive maintenance of industrial machinery, a vibro-acoustic study aimed at identifying the defect presence in cylindrical bearings was carried out under noisy environmental conditions. The simultaneous acquisition of acoustic and vibratory signals providing information on the condition of the bearings was carried out using microphonic and accelerometric sensors positioned in close and direct contact with an engine test bench. Three types of roller bearing were studied: one with no fault and two others with different numbers of faults. The signals acquired were analysed using the RMS, Kurtosis and Talaf indicators and discussed as a function of the rotating machine speed and the signal-to-noise ratio in the time domain. The acoustic and vibration indicators are compared and analysed to assess their relevance for fault detection.

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Classification par session : Survishno 5 / Fault Diagnostics & prognostics 1