

## **Bearings fault detection by means of frequency analysis**

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### **Abstract**

The present paper aims to analyse the possibility to prevent machine failure due to bearing faults, with the use of frequency analysis. The experimental research consisted in mounting a simple mechanical transmission, integrating an electric motor, a rigid coupling, a driven shaft, two pillow block bearings and a uniaxial accelerometer (connected to a data acquisition board), which was tested at two constant motor speeds. Follow-up, with the use of recorded data, it was plotted the envelope spectrum of bearing functioning, based on BPFO, BPFI, FTF and BSF harmonics, which were later used to determine on which element of the bearing is the defect located, or if the bearing lacks proper greasing.

*Keywords: machine failure, bearings, bearing defects*

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