

A LabVIEW based data acquisition system for vibration monitoring and analysis

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Abstract

LabVIEW (Laboratory Virtual Instrument Engineering Workbench) is gaining popularity as a graphical programming language, especially for data acquisition and measurement. This is due to the vast array of data acquisition cards and measurement systems which can be supported by LabVIEW as well as the relative ease with which advanced software can be programmed. One area of application of LabVIEW is the monitoring and analysis of vibration signals. The analysis and monitoring of the signal are of concern for fault detection and predictive maintenance. This paper describes LabVIEW based data acquisition and analysis developed specifically for vibration monitoring and used with vibration fault simulation systems (VFSS). On-line displays of time and frequency domains of the vibration signal provide a user-friendly data acquisition interface.

Keywords: Data acquisition, Monitoring, Signal analysis, Laboratories, Instruments, Data engineering, Computer languages, Gain measurement, Software measurement, Application software

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