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# Fault Diagnosis in Gears using Vibration Analysis

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**Abstract:** *In gearboxes, vibration stemming from load fluctuations and gear defects poses significant challenges. However, accessing and mounting vibration transducers in gearboxes can often be difficult. To address this, an experimental approach utilizing FFT analysis is employed to detect various types of gear tooth faults. By analysing vibration patterns, fluctuations in gear load gear faults can be identified effectively. This involves comparing signals from healthy and defective conditions using FFT analysis to trace sidebands of high-frequency vibrations. Validation is achieved by inputting data from an Accelerometer into LabVIEW, This comprehensive approach serves as a valuable tool for monitoring gear health under various operating conditions.*

**Keywords:** Gearbox, Vibration Analysis, Accelerometer