

## THE BRIEF REVIEW ON THE GEARBOX FAILURE IDENTIFICATION

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### ABSTRACT

*The gearbox is an important part of spinning machinery and has been utilized in a variety of industrial applications. Unexpected gearbox failure may result in significant financial losses. It's also critical to spot early indications of failure in gearboxes. Defects in the gearbox may be discovered in a variety of ways. Vibration signal analysis is the most common technique for monitoring the state of the gearbox and identifying problems. Vibration analysis was utilized as a support for system maintenance choices and as a predictive maintenance method. Shifts in vibration signals caused by defects may be detected using appropriate signal processing methods to assist assess the health status of the gearbox. It is feasible to evaluate the amount and severity of the fault and therefore predict the machine's malfunction by calculating and analyzing the machine's vibration. The vibration signal of the gearbox contains the hallmark of the failure in the gearbox, and it is feasible to identify the gearbox early using different signal processing methods by analyzing the vibration signal. This article gives a brief review of the many techniques for analyzing gearbox defects based on vibration analysis, as well as some insight into contemporary approaches to diagnosing gearboxes, such as the Artificial Neural Network, fuzzy sets, and other new technologies in gear fault diagnosis.*

**KEYWORDS:** *Fault Diagnosis, Vibration, Gearbox, Vibration Measurement Techniques, Vibration Signature.*

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