

A review on machinery diagnostics and prognostics implementing condition-based maintenance.

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Review

A review on machinery diagnostics and prognostics implementing condition-based maintenance

[Andrew K.S. Jardine](#) ... [Dragan Banjevic](#)

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Abstract

Condition-based maintenance (CBM) is a maintenance program that recommends maintenance decisions based on the information collected through condition monitoring. It consists of three main steps: data acquisition, data processing and maintenance decision-making. Diagnostics and prognostics are two important aspects of a CBM program. Research in the CBM area grows rapidly. Hundreds of papers in this area, including theory and practical applications, appear every year in academic journals, conference proceedings and technical reports. This paper attempts to summarise and review the recent research and developments in diagnostics and prognostics of mechanical systems implementing CBM with emphasis on models, algorithms and technologies for data processing and maintenance decision-making. Realising the

increasing trend of using multiple sensors in condition monitoring, the authors also discuss different techniques for multiple sensor data fusion. The paper concludes with a brief discussion on current practices and possible future trends of CBM.



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Keywords

Diagnostics; Prognostics; Condition monitoring; Condition-based maintenance; Signal processing; Sensor data fusion

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A review on machinery diagnostics and prognostics implementing condition-based maintenance, a freshly prepared solution, according to traditional concepts, verifies the liquid cycle.

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