عنوان مقاله:

Intelligent Prognostics and Diagnostics of pumps using condition monitoring methods to improve reliability

محل انتشار:

بیست و هفتمین کنفرانس سالانه بین المللی انجمن مهندسان مکانیک ایران (سال: 1398)

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خلاصه مقاله:

Predictive maintenance aims to reduce costs of maintenance, improve safety, reliability, efficiency and prevent catastrophic and costly failures by early fault diagnosis and prediction of future status of machines by using condition monitoring methods. Remaining UsefulLife (RUL) estimation of machines can be very complicated due to variant working condition and unique behavior of every machine. As a very attractive field in fault diagnostics and prognostics, Artificial Intelligence have attracted increasing attention from manyresearchers. Pumps are the most used mechanical equipment after motors and annually huge amount of money is spent for their maintenance. In this paper, techniques for intelligent fault diagnosis and Prognosis of pumps using condition monitoring data and ArtificialIntelligence methods such as Artificial Neural Networks (ANNs), Support Vector Machines (SVM), Genetic Algorithm (GA) and deep learning methods such as recurrent Neural networks are reviewed. Our findings show advantages, disadvantages, limitations, researchgaps and future trend of research.

کلمات کلیدی:

Prognostics and Health Management, Centrifugal Pumps, Condition Monitoring, Predictive Maintenance, Artificial Intelligence

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