عنوان مقاله:

Clustering of Condition-Based Maintenance Considering Perfect and Imperfect actions

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خلاصه مقاله:

Recent developments in condition monitoring technology have delivered important opportunities for condition-based maintenance. Although condition-based maintenance allows for more effectively planned maintenance actions, its relative performance depends on the behavior of the deterioration process. The objective of this paper is to develop a clustering model of maintenance activities and analyze the effect of perfect, imperfect, and hybrid maintenance on the cost. We consider a two-component system that experiences three degradation states before a complete failure. The components are equipped with a monitoring system that signals before each state change, on which our clustering is based. Actually, we have three types of clustering aiming at cost minimization. The results provide a general insight into when and how the activities are clustered and what kind of maintenance is selected such that the cost is minimized. Moreover, The results showed that clustering with a more degree of the clusters is more appropriate and produced cost savings about ۷۰%, if the fixed cost exceeds a certain amount.

کلمات کلیدی:

Imperfect maintenance, Condition-based Maintenance, Clustering, Condition Monitoring, Prediction signal

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