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可拓理論在光電雷達設備故障診斷之應用

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摘要

本文針對光電雷達設備故障診斷(Photovoltaic Radar Equipment Fault Diagnosis)，提出一套以物元模型和可拓關聯函數為基礎的可拓故障診斷。依據實測資料建立故障樣本的物元模型，光電雷達故障類型可經由關聯度直接被診斷出來。為驗證本文所提之可拓診斷法對光電雷達設備故障診斷之準確性，使用 MATLAB 撰寫診斷程式，來分類出故障型態，以證明所提方法之效率及準確性。

關鍵字：光電雷達設備;可拓診斷法;故障診斷;物元模型

Application of Extension Theory to Photovoltaic Radar Equipment Fault Diagnosis

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Abstract

In the paper, a novel extension method based on the matter-element model and extended correlation function is presented for photovoltaic radar equipment fault diagnosis. The matter-element models of the fault sample are built according to diagnostics derived from practical experience. The fault types in photovoltaic radar can be directly identified by relation degrees. In order to prove the accuracy of the extension method for photovoltaic radar equipment fault diagnosis, using MATLAB to develop diagnostic program. The simulation can prove the proposed method is effective and accurate.

Key words：Photovoltaic radar equipment;Extension method;

Fault diagnosis;Matter-element model