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[54] A HEALTH INDEX SYSTEM AND METHOD OF PREDICTING HEALTH CONDITION IN UNDERGROUND CABLES
預測地下電纜健康狀況的健康指數系統及方法

[57] The present invention discloses a health index system for predicting health condition in underground cables, comprising of: a processor and a memory communicatively coupled to the processor via a communications bus; a computational model communicatively coupled to the processor, wherein the computational model: receives a plurality of operating parameters for an underground cable; accumulates tangent delta (TD) signal data measured (102) based on the plurality of operating parameters for the underground cable; defines a composite health index (cHI) (104) based upon the accumulated TD signal data, a stability of the TD signal over time and a stability of the TD signal over voltage; calculates remaining useful life (RUL) (106) of the underground cable; analyzes the relationship of the cHI and RUL (108); and predicts the RUL model (110) using artificial intelligence (AI) based on the analyzed relationship between the cHI and RUL to determine the health condition of the underground cable.
本發明公開了一種用於預測地下電纜健康狀況的健康指數系統，包括：一個處理器和一個透過通信總綫與處理器通信結合

的存儲器；一個與該處理器通信結合的計算模型，其中的計算模型會：接收地下電纜的多個運行參數，根據多個地下電纜的運行參數累積測量的介損因數（TD）的信號數據（102）；根據累積的 TD 信號數據、TD 信號隨時間變化的穩定性及 TD 信號隨電壓變化的穩定性，定義出綜合健康指數（cHI）（104）；計算地下電纜的剩餘使用壽命（RUL）（106）；分析 cHI 和 RUL 的關係（108）；及根據 cHI 和 RUL 的分析關係，使用人工智能（AI）預測 RUL 模型（110）以檢測地下電纜的健康狀況。