Predictive Maintenance Strategies for Electrical Equipment: A Literature Review

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Abstract*: This research paper offered a broad literature review explores predictive maintenance strategies for electrical equipment, encompassing methodologies, applications, and challenges. Given the critical role of electrical systems in modern society, the transition from reactive to proactive maintenance is crucial for ensuring reliability and efficiency. The review systematically categorizes and analyzes a range of predictive techniques, from vibration analysis to machine learning, emphasizing the integration of data-driven approaches driven by sensor technology and computational advancements. Highlighting real-world applications across industries like power generation and manufacturing, the review underscores the tangible benefits of optimized maintenance schedules and reduced costs. While challenges persist, such as data quality and model complexity, the review underscores the need for interdisciplinary collaboration and innovative solutions. Ultimately, the review contributes to advancing predictive maintenance, envisioning a future where operational excellence is achieved through anticipation and prevention of equipment failures.*

Keywords: Predictive maintenance, Electrical equipment, Literature review

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