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Advanced Techniques of Health Monitoring of Single-Phase Induction Motors: Overview

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Abstract: *SPIMs require reliability because they have extensive use in different kinds of industrial and domestic applications; lately, in the case of SPIMs, over several decades, the scenario has built an immense concern with respect to them. As in the past decades, various techniques of health monitoring together with diagnoses research studies have been formulated in order to guarantee a healthy lifetime with the efficiency of SPIM. This chapter will provide a comprehensive overview of health monitoring techniques that ranges from vibration analysis, acoustic noise monitoring, thermal imaging, advanced signal processing, to IoT-based systems. Further, automation of fault diagnosis by introducing artificial intelligence and fuzzy logic, problems encountered such as environmental interference, cost, and data security, and some future research avenues toward developing the robust and scalable solution are discussed*

Keywords: health monitoring system

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