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Stochastic Estimation Methods for Induction Motor Transient Thermal Monitoring Under Non Linear Condition

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Abstract: *The induction machine, because of its robustness and low-cost, is commonly used in the industry. Nevertheless, as every type of electrical machine, this machine suffers of some limitations. The most important one is the working temperature which is the dimensioning parameter for the definition of the nominal working point and the machine lifetime. Due to a strong demand concerning thermal monitoring methods appeared in the industry sector. In this context, the adding of temperature sensors is not acceptable and the studied methods tend to use sensorless approaches such as observators or parameters estimators like the extended Kalman Filter (EKF). Then the important criteria are reliability, computational cost ad real time implementation.*

Keywords: Induction Motor; Thermal Modelling; Estimation Techniques; Thermal Monitoring

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