

## **SPEED SENSORLESS ESTIMATION SCHEMES FOR INDUCTION MOTOR DRIVE: A SURVEY**

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### **Abstract**

Speed sensorless estimation has greatly evolved from an open loop, low performance strategy to closed loop, high performance strategy over the past decades. The need of developing such technique is essential to adapt to the advancement in the control strategy, particularly in the vector control technique. Although there are various techniques available for speed sensorless estimation, but not enough effort has been put to review the schemes comparatively. In this paper several speed sensorless estimation schemes for Induction Motor are reviewed and an attempt is made to classify these schemes on the basis of implementation simplicity, performance on wide range of speed (including zero speed), sensitivity to parameters variations and ease of tuning, noise sensitivity and dynamic behavior.

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**Keywords:** Induction Motor, MRAS, Observers, Rotor Slot Harmonics, Speed Sensorless Estimation.