

## Comparative Study between Direct Torque Control and Sliding Mode Control of Sensorless Induction Machine

**Authors :** Fouad Berrabah, Saad Salah, Zaamouche Fares

**Abstract :** In this paper, the Direct Torque Control (DTC) Control and the Sliding Mode Control for induction motor are presented and compared. The performance of the two control schemes is evaluated in terms of torque and current ripple, and transient response to variations of the torque , speed and robustness, trajectory tracking. In order to identify the more suitable solution for any application, both techniques are analyzed mathematically and simulation results are compared which advantages and drawbacks are discussed.

**Keywords :** induction motor, DTC- MRAS control, sliding mode control, robustness, trajectory tracking

**Conference Title :** ICCARVE 2015 : International Conference on Control, Automation, Robotics and Vision Engineering

**Conference Location :** Istanbul, Türkiye

**Conference Dates :** May 21-22, 2015