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## Abstract:

Speed and torque of an induction motor need to be controlled in order to achieve smooth control application. Field oriented control aids this factor and enables independent control of speed and torque by establishing an independent relationship between motor parameters. This complex relationship is developed due to consideration of core loss and stray load loss while modeling an induction motor. These two negligible but important parameters are neglected in most of the works. But they should be considered to achieve a perfect control scheme. Papers that worked so far to obtain an effective controller, few of them considered core loss and stray load loss into account. But the controllers they proposed were complex since they needed extensive mathematical approach. Also their performance was not completely satisfactory. This paper develops fuzzy logic based controller which is very simple to understand and design. The controller also overcomes the drawbacks of previously proposed control schemes.

**Keywords:** PID controller, MIMO, Fuzzy logic, SPWM inverter