

A Problem with IFOC and a New PWM Based 180 Degree Conduction Mode

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Abstract : Three phase inverters being used today are based on field orientation control (FOC) and sine wave PWM (SPWM) techniques because 120 degree or 180 degree conduction methods produce high value of THD (total harmonic distortion) in the power system. The indirect field orientation control (IFOC) method is difficult to implement in real systems due to speed sensor accuracy issue. This paper discusses the problem with IFOC and a PWM based 180 degree conduction mode for the three phase inverter. The modified control method improves THD and this paper also compares the results obtained using modified control method with the conventional 180 degree conduction mode.

Keywords : three phase inverters, IFOC, THD, sine wave PWM (SPWM)

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