

## OMTHD Strategy in Asymmetrical Seven-Level Inverter for High Power Induction Motor

**Authors :** Rachid Taleb, M'hamed Helaimi, Djilali Benyoucef, Ahmed Derrouazin

**Abstract :** Multilevel inverters are well used in high power electronic applications because of their ability to generate a very good quality of waveforms, reducing switching frequency, and their low voltage stress across the power devices. This paper presents the Optimal Minimization of the Total Harmonic Distortion (OMTHD) strategy of a uniform step asymmetrical seven-level inverter (USA7LI). The OMTHD approach is compared to the well-known sinusoidal pulse-width modulation (SPWM) strategy. Simulation results demonstrate the better performances and technical advantages of the OMTHD controller in feeding a High Power Induction Motor (HPIM).

**Keywords :** uniform step asymmetrical seven-level inverter (USA7LI), optimal minimization of the THD (OMTHD), sinusoidal PWM (SPWM), high power induction motor (HPIM)

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