Abstract

The Direct Torque Control (DTC) is known as an effective control method for high performance drives in a wide variety of industrial applications. This paper presents the Direct Torque Control (DTC) of an asynchronous machine fed by three levels NPC inverter. This inverter provides nearly sinusoidal voltages with very low distortion, using less switching devices. Due to the small dv/dt's, torque ripple is greatly reduced. A nonlinear averaged modeling of the inverter was used to develop the control law. This kind of modeling allows a good tradeoff between simulation cost and precision. A simulation results are given to confirm the interest of the averaged modelling.

References

Using Non Linear Average Model of NPC Inverter in DTC Control of Synchronous Machines


Index Terms

Computer Science

Power Electronics

Keywords

Direct Torque Control  Three-Level NPC Inverter  and Nonlinear Average Modelling