A New Method for Balancing Capacitors Voltages in NPC Inverter without DC-link Voltages Sensors

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Abstract

This paper presents a simple SVM technique of capacitors voltages balance for three-level NPC inverters. In the proposed SVM algorithm the voltages sensors are not required. An adaptative observer to estimate capacitors voltages was used. The presented SVM technique slightly modifies space vector modulation technique by adding a control parameter which is used to adjust the distribution of vector times of middle voltage vector according to the capacitors voltages. Simulation results are given to show the validity of the proposed balance algorithm.

References

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**Index Terms**

Computer Science

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**Keywords**

SVM three-level NPC inverters capacitor voltage balance adaptative observer