Modulation of voltage source inverter

The maximum modulation index is defined here as the ratio between output phase-to-neutral voltage (peak) of the fundamental component and the DC-link voltage except for when the inverter is over ...

This paper aims to show the advantages of such modulation index tuning and its impact on the THD of the line-to-line voltages, the temperature of the DC link capacitors, the efficiency, and the dead-times ...

This paper examines the performance of three power converter configurations for three-phase transformerless photovoltaic systems.

This work presents three key current-source inverter modulation techniques: VSI-derived CSI SVM, direct CSI SVM, and direct duty ratio CSI PWM. It also includes extensive simulation ...

Besides providing a detailed literature review, this study includes multiple experimental results to evaluate the performance of these PWM techniques across different key metrics, such as ...

Keywords-- Voltage source inverter, Sine Pulse Width Modulation, Pulse Width Modulation, Weighted Total Harmonic Distortion, Distortion factor, Harmonic Spread Factor and switching losses.

Proposed algorithm would provide the duty ratio values that generate the required average values of the phase voltages out of the available inverter input voltage, anyhow.

Abstract The core of most power electronic systems involving DC/AC conversion is a voltage source inverter (VSI) that runs on some pulsewidth modulation (PWM) strategy.

Summary This paper proposes a single-stage three-phase quasi-Z-source inverter with strong boost ability and three new kinds of simple boost modified space vector modulation (SVM) strategies. ...

This configuration supplies the subsequent inverter stage with DC voltage levels at an optimal asymmetric ratio. In conjunction with a dual-output space vector pulse width modulation ...

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