Inverter voltage stress

Transformer-based inverters ensure isolation between the grid and the PV panel as a protective measure. Also, the transformer plays a crucial role in stepping up the input ...

The employed semiconductors endure maximum voltage stress equivalent to the input voltage, while the switched capacitors (SCs) are rated at only half of the input voltage. This significantly ...

To address these issues further, a novel bridgeless common neutral switched capacitor multilevel inverter has been proposed in this article. The maximum voltage stress on ...

This paper presents a new switched-mode resonant inverter, which we term the inverter, that is well suited to operation at very high frequencies and to rapid on/off control. Features of this ...

This paper proposes a novel T-type multilevel inverter (MLI) based on the switched-capacitor technique. The proposed inverter not only achieves that the maximum ...

Operating principle of the proposed inverter is illustrated. Voltage stress analysis, loss calculation, and filter design guidelines and example are given. Finally, simulation and ...

Abstract: The high-frequency behavior of the stator winding is synthesized herein using a multiconductor transmission line model to study the potential location of excessive voltage ...

Inverters are stressed with a ramped voltage stress (RVS) of various magnitudes to induce different degrees of gate oxide degradation. In addition, voltage transfer curves (VTCs) of ...

The proposed inverter topology has minimum voltage stresses on the switches and balanced capacitor voltages. This paper briefs the operation of proposed topology, voltage stress ...

The maximum capacitor voltage stress in the 13-level switched capacitor inverter presented in 8 is one-third of the maximum output voltage. Although this structure has a high ...

Switched impedance inverters are a category of power electronic converters that can be applied across various applications through the implementation of appropriate control ...

This paper investigates stress in medium-voltage motor insulation when the stator winding is excited by 3-, 5-, and 7-level multilevel inverter output waveforms. The effect of ...

This article develops a high-fidelity physics-based modeling approach to predict the voltage stress and current

distributions in individual conductors of electric machine ...

The comprehensive modeling approach proclaims that the voltage distribution within the winding is a result of the anti-resonance phenomenon, which can be characterized by two oscillatory ...

This study proposes a new 17-level asymmetrical MLI with minimum voltage stress across the switches and fewer components. Fig. 1 provides a comprehensive overview of the ...

Abstract The effects of circuit-level stress on both inverter operation and MOSFET characteristics have been investigated. Individual MOSFETs, with gate oxide thicknesses of 3.2 nm and ...

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