Frequency reduction point of three-phase inverter

PWM (pulse width modulation) is the most widely applied current conversion technology, but the high-frequency harmonics it causes have a ...

In this article, a hybrid discontinuous pulsewidth modulation (DPWM) based variable switching frequency scheme to achieve zero voltage switching (ZVS) is proposed for the three-phase ...

The selection of the pulse width modulation (PWM) strategy has deep impacts on the current total harmonic distortion (THD), and the power losses of the inverter. Conventional ...

This paper presents a variable switching frequency technique for switching loss reduction in a three-phase voltage source inverter, obtaining similar output current quality as ...

A fixed frequency model predictive control algorithm for a three-phase three-level inverter system is proposed in this paper. Based on the ...

Abstract--This paper has focused on the novel SVPWM strategy for the two-level three-phase inverter, which could eliminate the harmonics nearby PWM frequency. Ear-piercing high ...

A comparative study of three-level and five-level diode clamped, capacitor clamped and cascaded inverters has been presented in [4]. The effect of a passive LC filter on the inverter ...

This method can be applied to a three-phase, three-level inverter with the flying capacitor topology. Another advantage of this method is that the technique can be applied to more ...

It also compares two widely used modulation techniques Sinusoidal Pulse Width Modulation (SPWM) and Space Vector Modulation (SVM) with reference to the losses of a three phase ...

The aim of this paper is to analyse the capability of the variable switching frequency hybrid pulse width modulation (VSF-HPWM) strategy for reducing the inverter power losses.

Abstract--Three level T-type based converter (3LT2C) is becoming an attractive option in several grid connected power electronic applications as it offers several advantages like high ...

In DPWM techniques, each phase leg of the inverter is clamped to either the positive or the negative DC rail for one-third of each period of the reference signal. This results in a major ...

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The main CM path in a typical three-phase, six-switch inverter is shown in Fig. 1. The CMV is coupled to the ground through parasitic capacitances and is conducted back to ...

Abstract : This paper presents analytical techniques for the determination of the expressions for the modulation signals used in the carrier-based non-sinusoidal and generalized discontinuous ...

The proposed methods not only can achieve switching loss (SL) reduction almost as the same as traditional DPWM strategy, but also can realize NPV control and LFHs reduction.

A three-phase inverter produces output in terms of voltage, frequency, and phase, which can be matched with the electrical output using control methods. These control methods determine ...

Abstract: A generalised space vector pulse width modulation (SVPWM) framework for the realisation of all double switching states with a memory-optimised method is proposed to ...

This study analyzes the circulating current according to its causes and reviews the reduction methods. The reduction methods for modular inverters are compared in terms of eficiency, ...

Abstract- The paper describes a new discontinuous carrier based pulse width modulation (PWM) method for use in variable frequency drives (VFD) driven by three-level inverters. The method ...

Concerning the last two factors, several PWM strategies for switching loss reduction were presented in the literature which can be classified into: modulation, and variable ...

1 Introduction Three-phase voltage-source inverters have been widely utilised in motor drive systems for its high output quality and efficiency ...

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In this paper, the modified topology of paralleled three-phase four-leg inverters is proposed, and the principle for the reduction of CMC and CM EMI is with detailed introduction in part II.

Similar to the idea that a symmetrical circuit can reduce common-mode noise, the next section introduces a new three-phase, four-leg inverter that can deal with both low and high ...

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