

## عنوان مقاله:

A Multilevel Inverter Topology Based on Switched-Capacitor DC-DC Converter with Advantages of Asymmetrical Multilevel Inverters

## محل انتشار:

بیست و هفتمین کنفرانس بین المللی برق (سال: 1391)

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## خلاصه مقاله:

In this paper, a new topology for cascade multilevel inverter based on switchedcapacitor (SC) dc-dc converter is proposed. The proposed topology consists of seriesconnected SC dc-dc units and an H-bridge inverter. The units work as a unidirectional SC dc-dc converter. In utilized SC dc-dcconverters, the number of switches is decreased into half in comparison with the conventional SC dc-dc converter and consequently results in reduction of the converter losses and its size. The proposed inverter has a fewer number of power electronic switching devices in comparisonwith other classical topologies such as cascade H-bridge and neutral-pointclamped. Furthermore, the proposed topology can generate more numbers of voltage levels in output with equal magnitude of input dc sources like the asymmetrical multilevel inverter. The hybrid modulation technique has been applied for gate firing of the proposed inverter. Two algorithms for determination of units boost factor have been presented, too. The simulation results for a 15-level inverter obtained from PSCAD/EMTDC software confirm the validation of the proposed .configuration advantages and its theoretical operation and control method

## کلمات کلیدی:

H-bridge, switched-capacitor dc-dc converter, multilevel inverter

## لینک ثابت مقاله در پایگاه سیویلیکا:

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