Abstract

Asymmetric Cascaded Multilevel Inverter (ACMLI) was widely studied. Various control strategies have been investigated. However, most of the reported control strategies not discussed how to determine voltage levels, firing angle, switching-state and other parameters control design. This work was developed a universal algorithm to overcome the problems in the various number of H-Bridges and various DC voltages of ACMLI. The proposed algorithm based on combination theorem and matrix operation. The MATLAB computer program and simulation using MATLAB SIMULINK in the binary, trinary, equal interval, sine quantization and random DC voltage are the methods for verify the proposed algorithm. The results program execution and simulation in the single phase of ACMLI show that the proposed algorithm produces ACMLI control more accurate and faster if compared with previous control strategies.
Reference


Index Terms

Computer Science
Power Systems

Key words

universal algorithm
asymmetric multilevel inverter
voltage levels
firing angle

switching-state