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## Effect of Duty Cycle on THD for Multilevel Inverter Based on Selective Harmonic Elimination Technique (Conference Paper)

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### Abstract

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Multilevel inverters controlled suffers from the issue of harmonic distortion in the output voltage. Selective Harmonic Elimination (SHE) technique plays an effective role to eliminate these harmonics. The undesirable odd harmonics can be eliminated by having optimized the switching angles in SHE signal. To optimized and obtained these switching angles, a number of nonlinear equations should be solved using a numerical method. In addition to the modulation index, by changing the value of the duty cycle the Total Harmonics Distortion ( THD ) will also change. In this paper, a novel Optimization Harmonic Elimination Technique (OHET) based on SHE scheme is proposed in order to minimize Total Harmonic Distortion ( THD ). To evaluate and investigate the performance of the proposed scheme, a seven-level cascaded inverter is simulated by MATLAB and PSIM software. © 2018 IEEE.

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Duty cycle Multilevel Inverter Optimization technique Selective Harmonic Elimination .  
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Engineering uncontrolled terms: Duty - cycle Multilevel inverter Optimization techniques  
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