

SIMULATON OF A CLOSED LOOP CONTROLLED BOOST CONVERTER USING AN ACTIVE FILTER

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Abstract

Active filters are used to improve the power quality. In this paper a series active filter along with a Two – inductor, Two-switch Boost converter system has been used to obtain a high voltage with a low input voltage. The quality of the power is measured with the help of simulation. In this paper a comparative study has been done on the performance of the boost converter with various approaches and also using CVO type and active filter. The auxiliary transformer is added in series with the inductor to boost the voltage. In this paper, the Booster type of converter is designed and simulated using MATLAB Simulink and the circuit model is developed for closed loop system with an active filter. This model has been implemented successfully, to reduce the steady state error and also obtain the output voltage as accurate to the set point voltage.

Keywords : Active Filter, Auxiliary transformer, boost converter, pulse width modulation, two inductor, and PI controller