
Optimal Design of an Inverter to Drive Three Phase Motors Based on Z-Source Filters

Reza Assari*, Dr Hamed Ghane,

Abstract: Insisting of capacitor voltage and inductor current ripple in the output of dc-link circuit effect on the quality of power conversion and causes some problems to the consumers, As if the higher ripples could increase the output voltage harmonic distortion and affect the quality of output power. To solve the respecting problems of Dc-Link ripples we would suggest an algorithm that with applying it to the system and calculate amounts of capacitor and inductor of the Z network, can minimize the total inductor current and capacitor ripples, and as a result of it decrease the amount of output distortion. Comparison between this method and another method that is proposed in a paper and simulating the Circuits of two methods for two different control method of Z-Source inverter confirm the accuracy of our method.

Keywords : Key words: Three Phase Motor, Z-source Inverter, Optimization, Genetic Algorithm

[Islamic Azad University, Rasht Branch - Thesis Database](#)
[دانشگاه آزاد اسلامی، واحد رشت - سامانه بانک اطلاعات پایان نامه ها](#)