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Fuel Cell Fed Induction Motor Speed Control Through Z Source Inverter

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Abstract

This paper presents the Z- source inverter feeding to an Induction motor (IM). This Z-source inverter is also be used to boost up the available low voltage DC supply from the fuel cell. This paper has been proposed the speed control of fuel cell fed induction motor through z source inverter. The speed control of an induction motor is a highly efficient this can be used in numerous adjustable speed applications. To achieve transient performance, the peak DC link voltage is employed, which improves rejection of disturbance. SVPWM is used in switching algorithm. The closed loop SVPWM control technique of an induction motor is shown. This technique is widely used in industry. The performance of the proposed speed control method is verified through MATLAB/simulation. The simulation results of proposed scheme present good dynamic and steady state performance over the traditional voltage source inverter fed induction motor drive.

Keyword: fuel cell,, z-source inverter, induction motor, DTC-SVM, maximum boost converter