

A Strategy of Direct Power Control for PWM Rectifier Reducing Ripple in Instantaneous Power

Authors : T. Mohammed Chikouche, K. Hartani

Abstract : In order to solve the instantaneous power ripple and achieve better performance of direct power control (DPC) for a three-phase PWM rectifier, a control method is proposed in this paper. This control method is applied to overcome the instantaneous power ripple, to eliminate line current harmonics and therefore reduce the total harmonic distortion and to improve the power factor. A switching table is based on the analysis on the change of instantaneous active and reactive power, to select the optimum switching state of the three-phase PWM rectifier. The simulation result shows feasibility of this control method.

Keywords : power quality, direct power control, power ripple, switching table, unity power factor

Conference Title : ICAEE 2018 : International Conference on Automobile and Electrical Engineering

Conference Location : Dublin, Ireland

Conference Dates : February 15-16, 2018