

عنوان مقاله:

Implementation of a Comprehensive and Effective Multiloop Control Method based on LES filters for Dynamic Voltage Restorer

محل انتشار:

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خلاصه مقاله:

In this paper a new control strategy for dynamic voltage restorer (DVR) is presented to compensate effectively voltage sags. In this strategy, load and supply voltage magnitude and angle are estimated by least error square in short time. Advantage of this method is reducing noise, distortion and harmonic on estimation parameters. Accordingly, these parameters are controlled for each phase separately. Also, It should be noted that due to angle estimation by LES filters, control system does not require phase-locked Loop and this issue causes increase in speed of control system response. In addition, a P+Resonant and Posicast controller are used to eliminate the steady-state error and improve transient response in DVR, respectively. The proposed control system is simulated, using PSCAD/EMTDC software by induction motors starting is connected to 13 bus IEEE standard network. Finally, the simulation results prove that the proposed control scheme performs satisfactorily under sudden changes of load.

کلمات کلیدی:

Terms— dynamic voltage restorer; voltage sag; least error squares filters; control system; power quality

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