

## Compensation of Power Quality Disturbances Using DVR

**Authors :** R. Rezaeipour

**Abstract :** One of the key aspects of power quality improvement in power system is the mitigation of voltage sags/swells and flicker. Custom power devices have been known as the best tools for voltage disturbances mitigation as well as reactive power compensation. Dynamic voltage restorer (DVR) which is the most efficient and effective modern custom power device can provide the most commercial solution to solve several problems of power quality in distribution networks. This paper deals with analysis and simulation technique of DVR based on instantaneous power theory which is a quick control to detect signals. The main purpose of this work is to remove three important disturbances including voltage sags/swells and flicker. Simulation of the proposed method was carried out on two sample systems by using MATLAB software environment and the results of simulation show that the proposed method is able to provide desirable power quality in the presence of wide range of disturbances.

**Keywords :** DVR, power quality, voltage sags, voltage swells, flicker

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