



AK Tech Training and Placements

Transform Dreams into Reality

A Novel Solar Photovoltaic Fed TransZSI-DVR for Power Quality Improvement of Grid-Connected PV Systems

DVR is a power electronic compensator using for injecting the desired voltage to the Point of Common Coupling (PCC) as per the voltage disturbance. In the proposed DVR, in place of traditional VSI, TransZSI with outstanding merits of buck/boost, a broader range of voltage boost gain, fewer passive components, and lower voltage stress, is put forth. For efficient detection, accurate voltage disturbances mitigation, and also lessening the injected voltage harmonics, a hybrid Unit Vector Template with Maximum Constant Boost Control (UVT-MCBC) method is proposed for TransZSI-DVR. The performance of the proposed TransZSI-DVR with UVT-MCBC has been analyzed under severe sag, slight sag with harmonics, swell, and interruption. The comparative studies and simulation results have shown the effectiveness of the proposed TransZSI-DVR, as opposed to traditional ZSI-DVR and VSI-DVR. The TransZSI-DVR in the PV system has mitigated voltage sag/swell/interruption. It has also improved the power quality of both the injected voltage to the PCC and PV system's output voltage

Domain: Power Systems _ Hybrid Systems

Technology: Electrical