

## عنوان مقاله:

Power quality improvement using STS and DVR in wind energy system

## محل انتشار:

سومین کنفرانس بین المللی مهندسی برق (سال: 1397)

تعداد صفحات اصل مقاله: 14

## نویسنده:

Roasoul Soltani Sadagiyani - Department of Electrical Engineering, meraj institute of higher education, salmas, iran

## خلاصه مقاله:

Recently, renewable energy has attracted special interest because it seems to be a positive alternative to fossil fuels. European countries, in particular, and many other developed countries in the world have been in search of utilizing wind energy in order to meet the need for energy. The purpose of this study is the utilization of the wind energy in a safer and more quality way. Two systems were suggested for increasing the quality of the wind energy. In the first system, the wind energy and the grid were connected in parallel with the help of static transfer switch (STS), and if the wind energy is cut, the load will be supported by the alternative feeder. In the second system, dynamic voltage restorer (DVR) was connected to wind energy system (WES). The intention is, with the help of DVR system, preventing the fluctuations that might happen in the energy that is produced, due to the variations of wind speed. Both system circuits that are suggested have been created in PSCAD/EMTDC program and the reactions of the circuits in the situation of an error was analyzed in detail. The operation principles of STS and DVR have been explained in detail and then the simulation results have been comprehensively investigated with PSCAD/EMTDC program. The aim of the developed systems is to maintain the power continuity and improve the power quality. Different fault types were applied to the proposed systems and the system responses for these disturbances were examined.

## کلمات کلیدی:

Renewable energy- Wind energy- STS- DVR- Power quality

## لینک ثابت مقاله در پایگاه سیویلیکا:

<https://civilica.com/doc/831969>

