

# **“Islanding detection method for DFIG wind turbines using artificial neural networks”**

## Abstract

A new passive method of islanding detection is proposed for a wind farm power generation system using artificial neural network. The proposed method is based on the voltage and current measurements and processing of these signals with a Fourier transform to find the second harmonic. Then, the symmetrical components of the second harmonic of voltage and current signals measured at the wind farm side are used to feed an artificial neural network (ANN). The proposed artificial neural network is used through different environments of power quality to identify whether the abnormality at the point of common coupling (PCC) is a power quality disturbance or an actual islanding operation. The results show that the proposed islanding detection method is able to detect islanding operation very fast in an efficient way. Finally, Matlab/Simulink is employed for this purpose.