

Grid nodes voltages are not allowed to deviate excessively from nominal value. Appropriate measures should be taken to prevent such a deviation. The voltage difference between two nodes is strongly affected by reactive power flow. In contrast to frequency control, node voltage control must be achieved locally. This article investigates the use of a wind farm based on a doubly fed induction generators (DFIG) for reactive power compensation of a grid node. A wind speed variation sample is applied to the model of a wind power unit. The power flow between the stator of the DFIG-based wind power unit and the grid is controlled by using the decoupled active and reactive power vector control method. The limits or capacity of the stator and power converters to consume or provide reactive power are discussed. SIMULINK software has been used for the simulation of the system