

Role of Power Electronics in Grid Integration of Renewable Energy Systems

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Abstract : Advanced power electronic systems are deemed to be an integral part of renewable, green, and efficient energy systems. Wind energy is one of the renewable means of electricity generation that is now the world's fastest growing energy source can bring new challenges when it is connected to the power grid due to the fluctuation nature of the wind and the comparatively new types of its generators. The wind energy is part of the worldwide discussion on the future of energy generation and use and consequent effects on the environment. However, this paper will introduce some of the requirements and aspects of the power electronic involved with modern wind generation systems, including modern power electronics and converters, and the issues of integrating wind turbines into power systems.

Keywords : power electronics, renewable energy, smart grid, green energy, power technology

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