

Modelling and Installation of Grid Connected Rooftop Solar PV System

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Abstract: *The 100 kW Grid Connected Roof-Top (GCRT) Solar PV System erected at the SSGMCE, Shegaon Campus is modelled and simulated in this research. One of the renewable energies that is widely accessible is solar energy. In order to get the most out of solar energy, it is vital to use it properly. To meet the rising need for energy, more renewable sources must be used. A PV array's conversion efficiency decreases as a result of environmental parameter changes. Therefore, maximum power tracking, or MPPT, is employed. In order to boost energy production, MPPT detects peak power. Developing a PV array model, synchronising it with the grid, and implementing it in MATLAB Simulink are all covered in this work. This system comprises of a solar PV array, an IGBT inverter, and a grid connection. The power plant's performance is also described.*

Keywords: Grid Connected Rooftop (GCRT) Solar PV System, Maximum Power Point Tracking (MPPT), Renewable sources.

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BIOGRAPHY



Dr. Ravindra Shankarrao Pote received his B.E.(E.P.S), M.E.(EPS) & Ph.D. degrees in Electrical Engineering from the Sant Gadge Baba Amravati University, Amravati, India in 1990, 2003 & 2020 respectively. He is an IEEE member, ISTE (New Delhi) life member and ISCEE (Roorkee University) life member. In 1990, he joined S.S.G.M. College of Engineering Shegaon, where he is currently working as Associate Professor & Head Solar Production and Research Centre. His present research interests include Power System Protection, Solar System, Power Quality, Dielectrics Studies.