



Tutorial

on

Opportunities and Challenges of Integrating Renewable Energy Sources in Smart Grid System

Abstract of Tutorial:

Smart grid technology is the key for an efficient use of distributed energy resources. There prevails a steady increase of power demand due to urbanization and industrialization. Distributed Generation (DG), a rational idea to reduce the burden on the centralised grid and increase the grid reliability. DG gets an appealing picture when many renewable sources are integrated with one another and complements each other. Intelligent and Smart grid systems facilitates rapid outage detection, power management, pricing and response to consumers, power and demand management. This tutorial session aims at emphasizing the opportunities prevailing in integrating renewable sources to micro grid, maximum power tracking mechanisms (MPPT) in renewable energy sources, challenges involved in integrating sources and implementing smart networking for power management and security. The tutorial on Various MPPT techniques for solar energy is supported with MATLAB/SIMULINK modelling and validated with experimental result

Organised by :

Dr. Subhransu Sekhar Dash,
SRM University,
India, Sekhardash.s@ktr.srmuniv.ac.in,



Subhransu Sekhar Dash received his Engineering Degree from Institution of Engineers(India) and M.Tech from U.C.E, Burla, Odisha in 1994, and 1996 respectively. He received the Ph.D. degree in Power Systems Engineering from the Electrical and Electronics Engineering Department, Anna University, TN, India 2006. Since 2006, he is working as a Professor in the Department of Electrical and Electronics Engineering, SRM University, Tamil Nadu, India. He was a Research Fellow at the University of Wisconsin, USA during 2013. He was also a visiting professor at Francois Rabelais University, POLYTECH, Tours, France .He has over 20 years of research and teaching experience in electrical power engineering, particularly in renewable energy sources Integration, distributed generation, control of power electronic systems, DC/DC converters, smart grid. Dr S S Dash has published over 175 technical papers in refereed journals, 3 book, and 6 book chapter. Dr. S. S Dash has supervised 19 PhD students, 45 post graduate and 35 graduate students.