Weekly Saturday Seminar

Date : 05.08.2010

Weekly Saturday Seminar of the department of EEE will be held as per the following schedule for the months of August to October, 2010.

Sl. No.	Date	Speaker Name	Topic
1.	07.08.2010	Dr. T. Ghose	Smart Grid
2.	14.08.2010	Mr. R. K. Keshri	DC Link Voltage regulation in Electric Vehicles.
	21.08.2010	Dr. Somnath Mitra AGM, RDCIS, SAIL	Leveraging OPC for bovepailing PLC Communication (OPC in Combased technique for accesing for bidirechnal PLC Communication)
3.	28.08.2010	Dr. D. K. Mohanta	Geographical Information System (GIS) application in Engineering
4.	04.09.2010	Dr. B. M. Karan	Introduction to Systems Biology
5.	25.09.2010	Dr. S. Ghosh	A Hybrid Optimization for PID Controller turning
6.	23.10.2010	Dr. S. G. Kadwane	Reliability Analysis for Inverter
7.	30. 10.2010	Dr. R. C. Jha	Introduction to Power System Stability

SMART GRID

Along with the unceasing rising consciousness of energy and environment, the demand of electrical power grid safe and steady running, as well as the requirement of high quality and reliable power supply for consumers, smart grid has been a common aim for power electric development in whole world. Therefore, the development of demand, supply and power –flow control technologies will be essential in protecting, managing and optimizing the new grid. The smart grid will feature tightly integrated renewable energy, proliferation of energy storage, growing mobile loads and resources, distribution of production, new levels of grid controllability, real time grid awareness, smart and grid friendly appliances. Smart grid technology is not a single silver bullet but a collection existing and emerging standard-based, interoperable technologies working together. Controllable technologies for supply, demand, power flow and storage provide the means to implement decisions from smart control algorithms and create value to the society.

All the interested faculty members, Post graduate students and other interested persons are requested to attend.

Venue: ESR

Time : 11.20 a.m

(Dr. T. Ghose) Prof. & Head

Contact no. (1)+916512275465 ,+916512275444 Ext~401, Fax ~+916512275401
Email: www.eee@bitmesra.ac.in

Department of Electrical and Electronics Engineering
Birla Institute of Technology, Mesra, Ranchi-835215

Weekly Saturday Seminar

Date: 14/08/2010, Saturday, 11:20AM

Venue: ESR, Department of EEE

DC Link voltage regulation in Electric Vehicle

Breif: DC-DC boost converter plays an important role to adjustable speed drive system f. i. Electric and Hybrid Electric Vehicle application, where we need to i) boost input voltage to the voltage source inverter for higher speed requirement, ii) boost lower voltage from the energy sources like Battery, Fuel Cell, PV Cell to higher dc link voltage. Status of load (*increase, decrease and sudden stop*) affects the dc link voltage. Especially load reduction by a larger value is more severe for dc-link voltage. If load is reduced, current requirement for load is less but as per its nature inductor current continues to flow, so the excess current charges capacitor connected in parallel to load, increasing bus voltage. This problem is of more concern when there is sudden decrease in load or is a case of full load to no load condition. The problem becomes more severe for the applications where input voltage to converter increases with decrease in output current. This problem makes necessity of proper control of the boost converter, both in the case of continuous and discontinuous current mode. It has been found that, during the control if reference current is modified as per the load current and input voltage, problem can be solved with the advantage of no modification in control between continuous and discontinuous conduction mode. In the present discussion Modified Current Reference Scheme for PI control of boost converter is discussed solving the problem mentioned.

Ritesh Kr Keshri
Member, IEEE (PES, IES)
Assistant Professor, Department of EEE
BIT Mesra, Ranchi-835215

R. K. Keshri (M'08) was born in Bihar, India, in 1978. He received the B. Sc (Engg.) and M. Tech from National Institute of Technology, Jamshedpur, India, in 2003 and 2007 respectively both in electrical engineering.

Since 2006 he has been with Department of Electrical and Electronic Engineering, Birla Institute of Technology, Mesra, India as a Assistant Professor. From January 2008 to December 2008 he was in Electrical Engineering department, University of Padova, Italy as a Young Researcher with Professor Giuseppe Buja. From 2003 to 2005 he was with Electrical Engineering Department MPEC Kanpur. His research interests include power electronics and electric drives.

Mr. Keshri received silver medal for being first in M. Tech electrical engineering at NIT Jamshedpur in year 2007, Young researcher fellowship from Ministry of University of Italy in year 2008 and Erasmus Mundus Fellowship, from European Commission in the year 2010 for 34 months.