



**Short Term Course
On**

Converter topologies for grid connected Solar PV system

24th -26th April, 2013.

Introduction

Inverter is power electronic equipment which converts variable DC voltage produced by the PV panels to AC voltage of constant magnitude and frequency. It is the second most expensive component of a PV system. The cost of PV panels is on the decline. In order to make the system economically feasible it is desirable to minimize the cost of the inverter without degrading its performance. Thus, the challenge is to achieve high efficiency at low cost. The course focuses on state of the art inverter topologies for integration of photovoltaics (PV) with the grid.

Broad objectives:

The objective of this course is to give an insight into the state of the art inverters used in grid connected PV systems. At the end of the course, the participant would:

- Become familiar with the working of inverters used in PV systems
- Be aware of standards to be met by these inverters
- Get to know about future trends

Who May Benefit

The course would benefit anybody who wants to work with converter topologies, particularly research and development engineers who are working on power system and PV system. The workshop would also be an excellent opportunity to learn several aspects of Solar PV technology and features and operation of solar PV inverters.

Course Content

The following topics would be covered in the course:

- Basics of inverters
- Features and operation of solar PV inverters
- Maximum power point tracking
- Different system configurations – central inverter, string inverter, multi-string inverters and module integrated inverters
- Inverter topologies for central inverters

- Inverter topologies for string inverters
- Transformer-less topologies
- Issues – earth leakage currents
- Inverter topologies for module integrated inverters
- Current harmonic distortion
- DC current injection
- Safety standards Issues
- Module mismatch
- Partial shading
- Areas of research

Eligibility

Electrical engineers and academicians working in the field of power electronics/PV systems, preferably with 1 to 3 years of work experience.

Date & Venue

Date:

24th -26th April, 2013.

Venue:

Electrical Engineering Department

Room no: - 101

IIT Bombay, Powai,

Mumbai -400076

Maharashtra

Registration Details

There is limited number of seats for the course. Participants are required to confirm their registration by sending the completed Registration Form, along with the fee to the Course Coordinator address. The fees must be paid by demand draft in favour of **“Registrar IIT Bombay - CEP Account”**.

Fee Structure

Category	Amount	Duration of Course
Academic/Institution	Rs. 10,200	3 Days
Industry/ Individual	Rs. 13,500	3 Days

The fee includes course material, lunch and refreshments.

A confirmation email will be sent after we receive the demand draft. If you do not hear from us for over 7 days, please track your courier. Please drop us an email at ncpre@iitb.ac.in only if the

post has reached us and you have not heard from us. Your registration is complete only after we receive your demand draft along the registration form.

Deadline for submitting the Registration Form and Fees is 10th April, 2013.

TA/DA

Note: TA/DA will be provided to Academic/Institutional participants on prior request up to the sleeper class fare only.

Accommodation

Accommodation is provided at a cost, accommodation type hostels or guest house, kindly let us know at the time of registration if you would need accommodation.

Please contact the following for all queries related to registration and accommodation, contact:

Registration

Mrs. Smita Bhattacharjee

Email: smita98@iitb.ac.in

Contact No: 02225764476

Accommodation

Mr. Ajay P Jadhav

Email: ajayjadhav@iitb.ac.in

Contact No: 09821498899

Course Coordinator:

Prof. B.G Fernandes

Department of Electrical Engineering
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Email: bgf@ee.iitb.ac.in

Other

For information on other Solar Photovoltaic (PV) courses, please visit
<http://www.ncpre.iitb.ac.in>