

Table of contents

Monday 13 August 2012	1
-----------------------------	---

Joint ICTP-IAEA Workshop on Physics of Radiation Effect and its Simulation for Non-Metallic Condensed Matter | (smr 2359)

Monday 13 August 2012

An overview of the electronics properties of semiconductor and insulator materials - Adriatico Guest House Kastler Lecture Hall (11:30-13:00)

The aim of this lecture is to give an introduction to the physical principles underlying the main electronic properties of semiconductor and insulator materials.

Particular emphasis will be given on the basic transport mechanisms and on the generation/recombination processes of free carriers in order to provide the fundamental equations governing the electronic behaviour of semiconductor materials.

Finally, the principles of operation of basic devices, as pn junction or Schottky diodes, solar cells, Metal-Insulator-Semiconductor (MIS) and transistors (BJT, FET) will be introduced.

time	title	presenter
11:30	An overview of the electronics properties of semiconductor and insulator materials	ETTORE VITTONI