



Ph.D. School in Electrical and Electronic Engineering and Computer Science

Ph.D. in Microelectronics

University
of Pavia



SEMINAR

High Efficiency photovoltaic power plants: the III-V compound solar cells

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Aula Seminari - D Floor, Department of Electronics

The industrial exploitation of the MOCVD (Metal Organic Chemical Vapour deposition) technology has made possible the manufacture of PV devices whose electrical performances were not even imaginable less than a decade ago. The solar cells based on the III-V compound semiconductors have been successfully employed since the late eighties for the assembly of space photovoltaic generators. Their current performances in terrestrial high concentration applications (CPV: Concentration PhotoVoltaics) have contributed to bring the overall conversion efficiency of the CPV power plants to the edge of the 30% target.

This communication will give an overview about the state of the art of the technology of both space and terrestrial solar cells, based on III-V compound semiconductors and will summarise the main issues related to their application in concentration systems.

Biography:

Giuseppe Gabetta graduated in Electronic Engineering in 1986 at Pavia University and became Research Doctor in 1990. He was Research Fellow with the Research Laboratories of Electronics at the Massachusetts Institute of Technology from 1989 to 1991. In 1991 he joined the Materials Division of CISE SpA where he worked until 1997. Since 1998, he is with the Solar Cells Production Unit of CESI SpA, one of the very few production facilities worldwide, and the only one in Italy, that entirely owns the technology for the manufacture of the high efficiency multijunction solar cells based on the III-V compound semiconductors. He is currently holding the position of Solar Cell Product Assurance Deputy. He is co-author of several papers on International Journals and Conferences.

The seminar will be held in Italian.

Organizer

Prof. V. Annovazzi Lodi

Ph.D. Coordinators

Proff. M. Calzarossa e F. Maloberti

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