



Contribution ID: 235

Type: **Oral Contribution**

Analysis of semiconductor detectors using MeV ion beams

Thursday 27 October 2022 17:35 (20 minutes)

In this talk, we will first briefly present the infrastructure available at the Centro Nacional de Aceleradores, based on a 3 MV tandem accelerator and a compact cyclotron, which are employed for different Nuclear Physics applications, as the characterization and modification of materials using Ion Beams, the development of nuclear instrumentation, the irradiation of electronic devices and the research with neutrons. Then we will describe the fundamentals of the Ion Beam Induced Current (IBIC) technique, a methodology employed to evaluate the spectrometric and transport properties of semiconductor detectors.

Some illustrative examples of the IBIC technique will be shown, including the dose rate dependence on the generation of point defects in Si diodes, the analysis of silicon-based Low Gain Avalanche Detectors (LGAD) for high energy physics research and the spectroscopic response of SiC diodes at high temperature with interest in nuclear fusion.

Primary author: Prof. GARCIA-LOPEZ, Javier (Centro Nacional de Aceleradores, Sevilla, Spain)

Co-authors: Dr JIMENEZ-RAMOS, Maria del Carmen (Centro Nacional de Aceleradores, Sevilla, Spain); Mr GARCIA OSUNA, Adrian (Centro Nacional de Aceleradores, Sevilla, Spain)

Presenter: Prof. GARCIA-LOPEZ, Javier (Centro Nacional de Aceleradores, Sevilla, Spain)

Session Classification: P8 Nuclear Physics Applications

Track Classification: P8 Nuclear Physics Applications