

“Amorphous and nanostructured silicon: from materials to sensors application”

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The aim of this presentation is to show how amorphous and/or nanostructured silicon films are produced and how we can improve their structure and morphological characteristics and so, their electro-optical performances aiming their application in electronic and optoelectronic devices.

This implies to discuss how films are produced and how we can control their performances in situ, aiming to reach reproducibility and the production of films with the desired performances. After, special emphasis will be given concerning what distinguishes the electronic behaviour of a crystalline based device from the one based on amorphous/nanostructured silicon, emphasizing their application in optoelectronic devices like solar cells and optical sensors.

Finally, we will focus our presentation in the use of amorphous silicon films in producing position sensitive detectors, how they are fabricated and their potential of application.