The supervisory board of the Kestcells Project announces the Seminar AMU-06:

"Raman spectroscopy as non-destructive and non sample preparation tool for defects evaluation in complex semiconductors for photovoltaic applications"

Dates: 20th of October, 2015.
Place: AMU, IM2NP – Campus de St Jérôme , Marseille, France

Program

Time	Subject	Speaker
14:00 – 15:30	Raman spectroscopy as non-destructive and non sample preparation tool for defects evaluation in complex semiconductors for photovoltaic applications	Dr. Victor Izquierdo
IREC (Catalonian Institute for Energy Research) , Barcelona, Spain		

Summary

The presence of defects in a semiconductor material plays a significant role in determining its electronic and optical characteristics. The identification and understanding their influence on material properties is of critical importance. While monoatomic (Si, Ge) and binary (GaAs, SiC, CdTe) semiconductors have relatively simple and well-known defect structures, both intrinsic and extrinsic, there is a growing number of applications for more complex compounds, such as CIGS, CZTS, for which these structures are not well understood. A complexity factor in the application of many of these compounds is the use of off-stoichiometry compositions for the best device performance, which greatly increases the probability of forming secondary phases and defects.

In this frame, Raman spectroscopy presents several advantages that can help to detect, quantify and identify these defects. In this seminar will made a brief review of the Raman fundaments and the impact of the defects in the vibrational properties, and presented some examples of their application in CIGS, CZTS, SnS, etc. compounds.