



## **Seminaire M2HA**

**Université de Nîmes - Site des Carmes  
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### **Photovoltaic devices. Optoelectronic study of CdTe/CdS thin film solar cells**

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#### **Résumé :**

Photovoltaic cells are promising devices for energy production in the frame of sustainable development. We shall present briefly the different cell generations before focusing on the research we perform on thin film solar cells.

CdTe thin film solar cells have obtained 16 % efficiency record of sunlight conversion. To achieve this performance it was necessary to increase the comprehension of physical phenomena ruling the devices not only under a macroscopic view, but considering the importance of microscopic features. Under this approach, this work presents a study of electrical and luminescence properties of single CdTe and complete solar cells, and in particular, about the transformations taking place in materials and devices, when the thermal treatment in the presence of Cl is realized.