

Our skills

Study, development and fonctionalization of thin layers for optical and photovoltaic telecommunication devices



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YOUR NEEDS

- Study of semiconductor or dielectric thin films
- Development of thin-film materials for optoelectronics
- Study of functional properties, especially optical properties
- Study of materials at the nanometric scale

RELATED SKILLS

- Thin layers of oxides, thermochromy
- Optical and electrical properties of thin films for energy
- Thin film deposition under ultra-high-vacuum
- Structural and microstructural characterization
- Electrical and optical properties measurement

OUR SOLUTIONS

- Expertise in the development of semiconductor nanomaterials and nanocrystals
- Optical and electrical functionalization of thin films
- Energy saving, energy conversion, energy efficiency, low cost component
- Three research topics:
 - Confined semiconductor nanocrystals (Si, Ge, SN)
 - Doping nano-objects and thin films
 - Spin injection into semiconductors
- Elaboration and annealing techniques : MBE, reactive evaporation, heat treatment, ultra-high-vacuum tube furnace, rapid annealing furnace, RTA
- Optical characterization: photoluminescence spectrometry (UV visible infrared spectral range); vibrational spectrometry (IR, Raman)

OUR REFERENCES


KEYWORDS

Semiconductor, optical properties, luminescence spectroscopy , Raman, nanocrystals, thin films, photoluminescence, rare earths, silicon oxide, energy transfer, doping, spin injection, nanoscale characterization, TEM, E-Beam, heat treatment

CONTACT


- Contact the research group:

 herve.rinnert@univ-lorraine.fr

 +33 3 72 74 25 48

- Contact the Technology Transfer Office (TTO):

 ijl-tto@univ-lorraine.fr

 +33 3 72 74 26 04