Laboratoire Lasers Plasmas et Procédés Photoniques
UMR 6182 CNRS - Université de la Méditerranée - Campus de Luminy C917 - 13288 Marseille Cedex 09, FRANCE

RECHERCHES AU LABORATOIRE LP3 SUR LES APPLICATIONS DES LASERS AU PHOTOVOLTAIQUE

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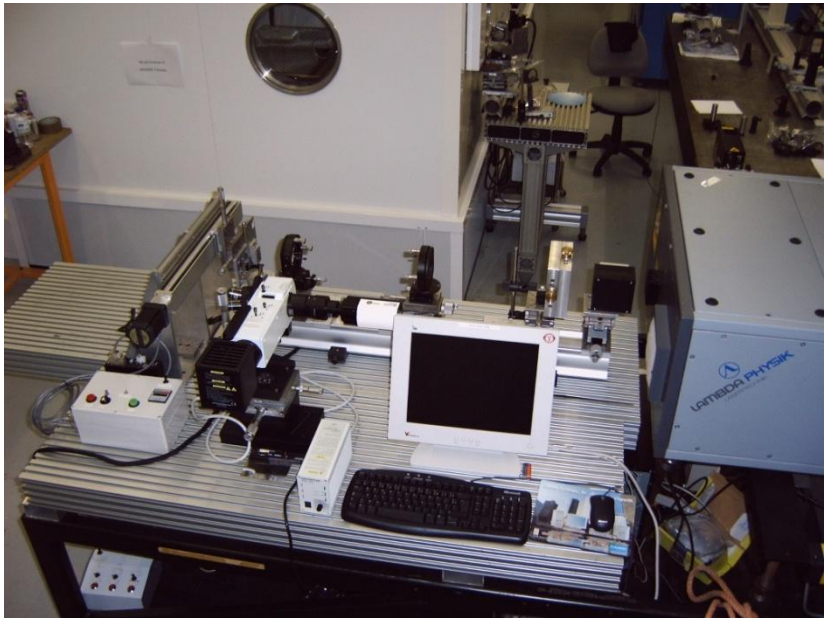
Collaborations

Nanosecond lasers (excimer and Nd:YAG) :
Wavelength : 193nm, 248nm, 308nm, 532nm, 1064nm
Energy : up to 2J
Average power : up to 1kW
Pulse duration : from 6 to 80ns

Picosecond lasers (Nd:YAG) :
Wavelength : 266nm, 355nm, 532nm, 1064nm
Energy : from 120mJ to 30mJ
Repetition rate : 10Hz
Pulse duration : 50ps

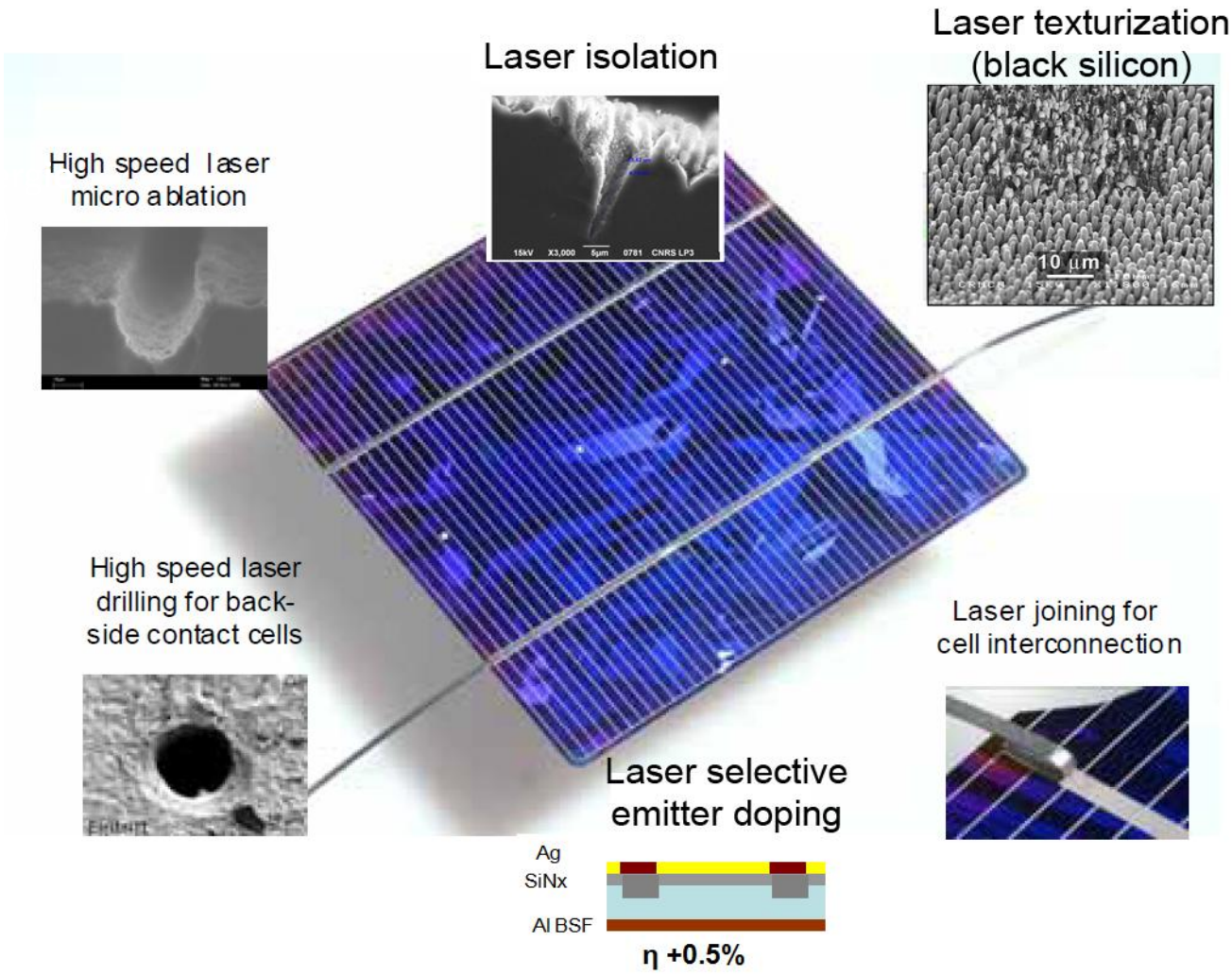
Femtosecond lasers (TiSa and Ytterbium) :
TiSa from Spectra Physics : 800nm, 1mJ, 100fs, 1kHz
Ytterbium from Amplitude Systems : 1025nm, 450fs, 100µJ@10kHz, 200µJ@1kHz

- Interaction cell : control of gaz nature and pressure, optical windows for diagnostics, …
- Fast ICCD cameras (10ns) for imaging
- In situ microscope for sample vizualisation
- Microscope for laser beam coupling and vizualisation
- spin coating, thermal evaporator
- Clean room class 1 for laser treatment
- AFM, MEB
- etc…



SOLASYS

FP7 - SOLASYS
Laser Applications for Solar Cell and Solar Module Production



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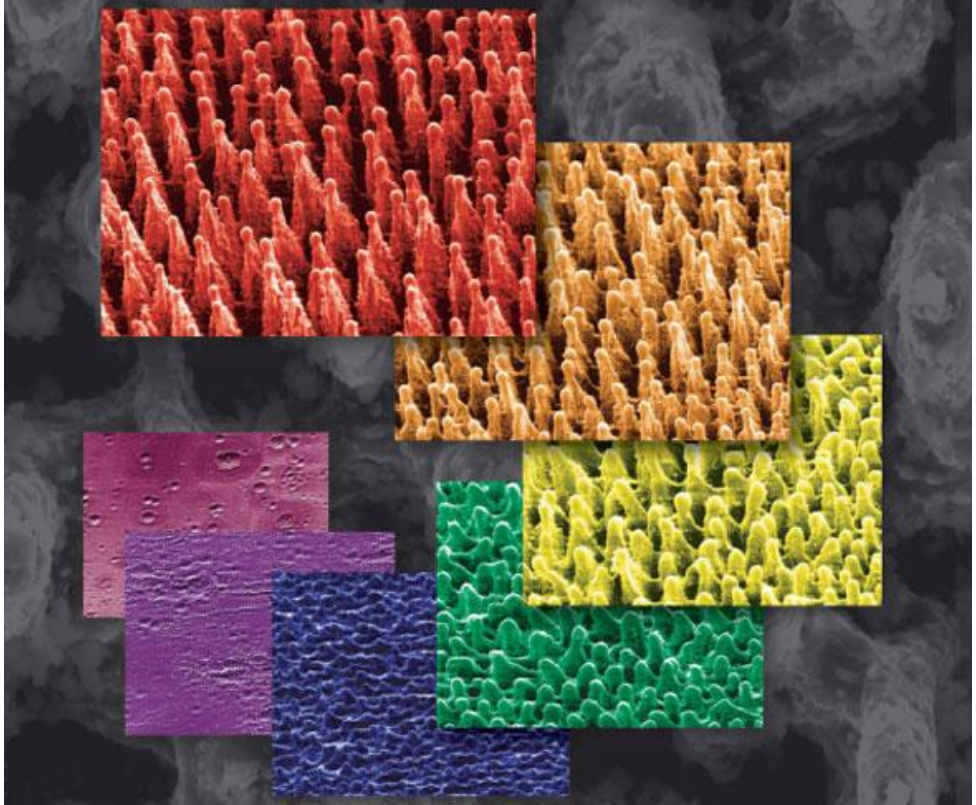
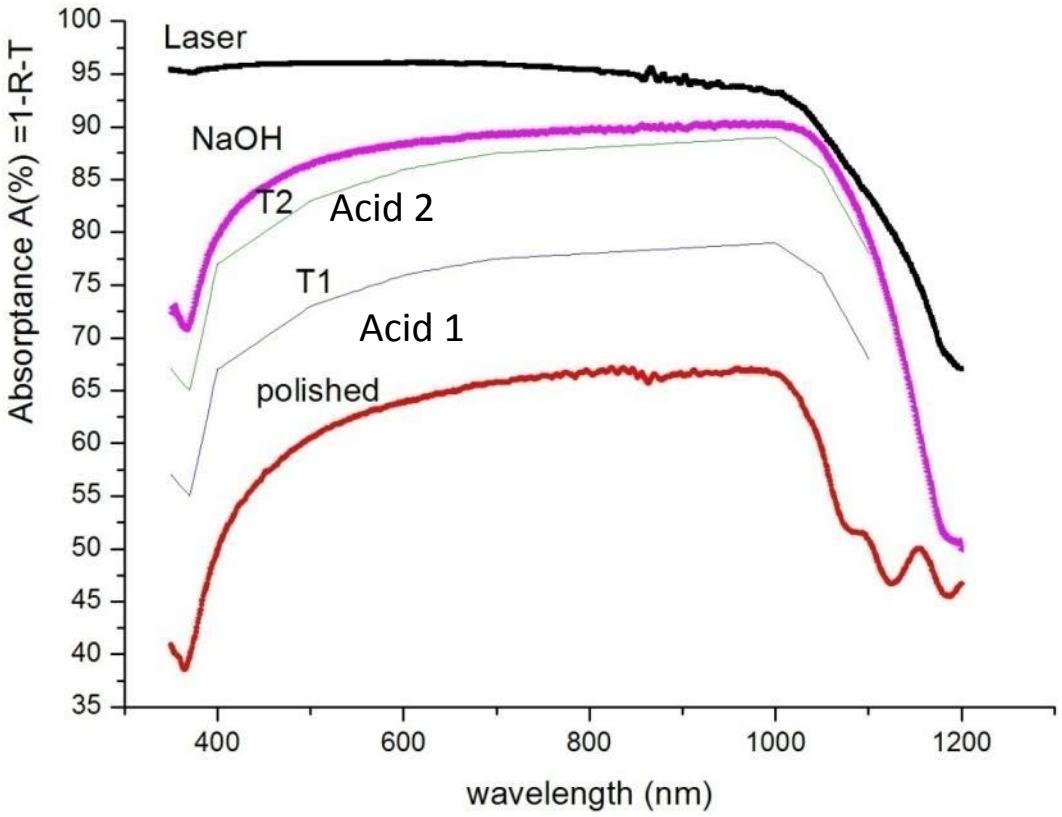
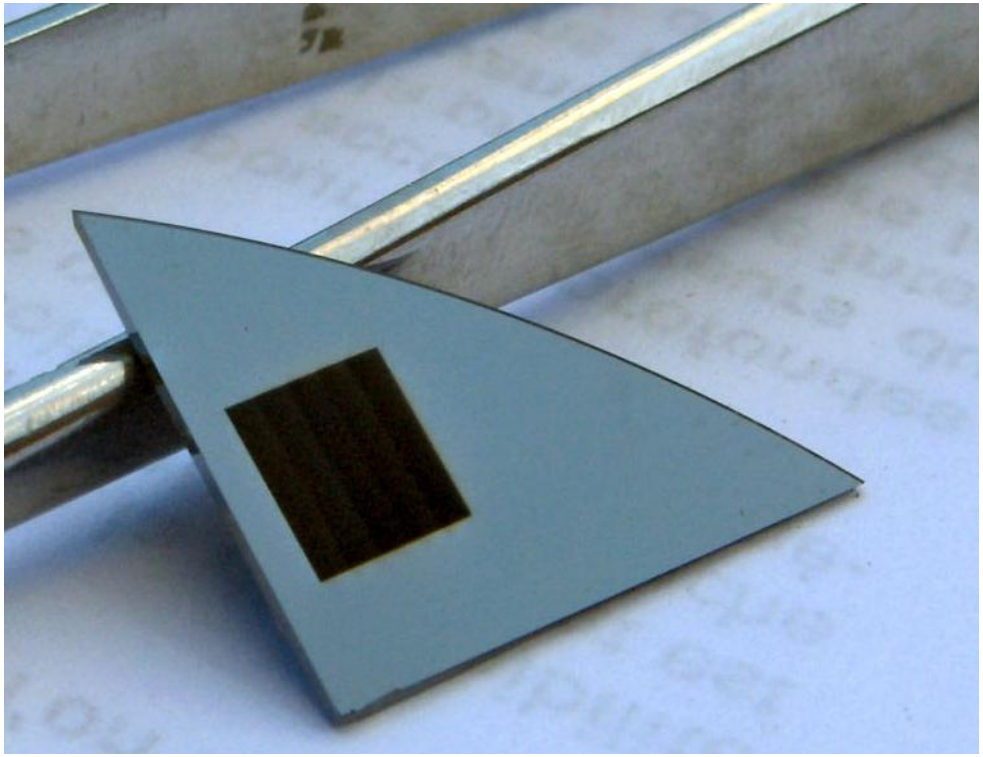


Absorptance for different texturizations





Optical : up to 97 % optical absorption (mono Si or multi Si)
Electrical: up to +50-60 % increase of the photocurrent

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