



GEMaC

Groupe d'Étude de la Matière Condensée

PLD FOR OXIDES

A UHV chamber is used to elaborate thin films of essentially ternary oxides by laser ablation using two different lasers, a KrF excimer laser (Lambda Physik - 650mJ / 248 nm) and a Nd:YAG solid-state laser (Spectra Physics - 180mJ / 355 nm). The base pressure in UHV systems is around 5×10^{-9} mbar.

Substrates are heated from room temperature to 900°C in partial or total oxygen pressure. A as pulsed valve is available as well. An eight-target holder provides a possibility to grow all-oxide heterostructures. Targets are mainly fabricated in the lab. The PLD setup is equipped with different in situ characterizations such as:

- » Spectroscopic ellipsometer (350-850nm/ SENTECH et 370-1600nm/ WOOLAM)
- » RHEED (STAIB Instruments, 15 kV)
- » IR Camera (FLIR Systems)
- » Emission spectrometer (Ocean Optics)
- » Residual Gaz Analysis
- » Double wavelength pyrometer (WILLIAMSON)

