

**Thin film Process :** Growth of group-III epitaxial layers and their heterostructures by PLD technique.

**Equipment:** UHV-PLD (LASER-MBE) system - 1

**Photograph :**



**Basic Principle:**

Epitaxial layers are grown by laser ablation of related solid or liquid targets in the presence of suitable gas or plasma ambient. An excimer laser is used for laser ablation of targets. The ablated materials condense on the substrate kept normal to the target.

**Capabilities:** GaN layers are grown by laser ablation of GaN solid or Ga liquid targets in the presence of r.f. nitrogen plasma ambient. A KrF excimer laser of 248 nm wavelength (25 ns pulse width and 730 mJ/pulse energy) is used for target ablation. The laser frequency is tuneable up to 50 Hz. The system is equipped with reflection high energy electron diffraction (RHEED) facility to monitor the growth sequence in-situ. Thickness: up to 1 micron.

**Sample requirements : Max. 1cm x 1 cm**