

PLD

Physics and Photonics in service of future

Alberto Sposito, Tim May-Smith, Kate Sloyan, Rob W. Eason

Pulsed Laser Deposition (PLD) group of the Optoelectronics Research Centre, University of Southampton

Pulsed Laser Deposition (PLD) is a deposition technique which was developed more than forty years ago, but it became widespread in research laboratories only in the eighties for thin film growth of superconductive materials. It is relatively economic and simple, although its physics is quite complex.

This deposition technique exploits the ablation process of material by means of a pulsed laser usually emitting in the ultraviolet (UV), the region of the electromagnetic spectrum where most materials absorb.

The seminar is about the basic concepts of this film growth method from an experimental point of view rather than a theoretical one: pros and cons, deposition conditions and some practicalities will be shown. Lastly the talk deals with the research projects carried on by the PLD group of the Optoelectronics Research Centre (ORC) of the University of Southampton, a centre of excellence in the research field of photonics. The PLD group of the ORC is one of the fewest in the world boasting a multi-target and multi-laser deposition system.

