

RING RESONATOR WITH RARE EARTH INTEGRATED ON WAVEGUIDES

LABORATORY : Institut Lumière Matière
IN COOPERATION WITH inl
:

LEVEL : M2
TEAM(S) : MNP

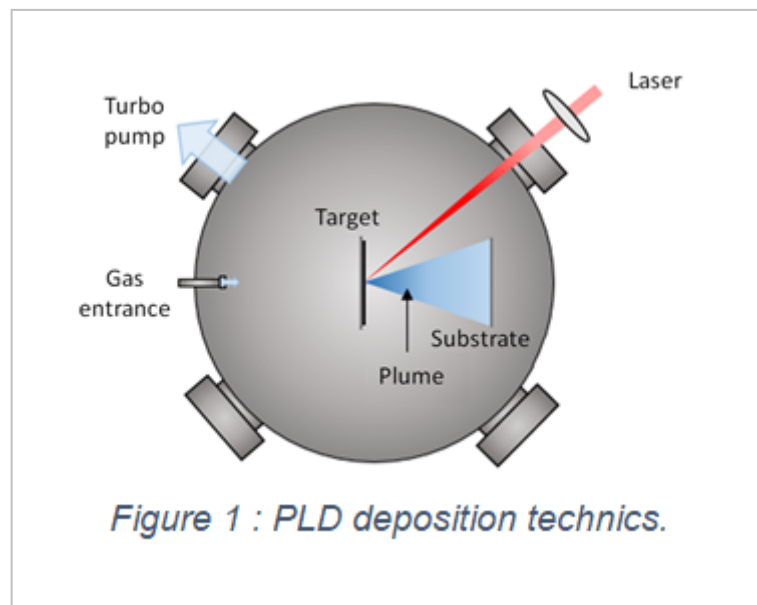
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KEYWORD(S) : rare earth / photonics

SCIENTIFIC CONTEXT :

Rare-earth-doped oxide made by Pulsed Laser Deposition (PLD) are promising for photonics applications. However, such deposition techniques can be limited by substrate size and layer quality. In this project, we aim to improve our PLD equipment (Figure 1) using different optimization such as target optimization [1], physical [2], plasma [4] or trajectory [5] filters. For that task, the ILM-MNP (Institute Light Matter, Material and Photonics Nanostructure) team has an extensive experience in PLD over many years [6]-[10]. Thanks to the funding of the CPER SULTRANS project (2023 AURA P3 - 520k€ from 2024 to 2026), we now want to adapt our PLD machine for larger-scale samples with high quality and homogeneous layers on 2" substrates.



MISSIONS :

For this 5-month internship, the candidate will work on our new PLD system to enhance the quality of devices and layers doped with rare earth elements. He or she will install our new laser and sample holder, as well as implement optimizations such as beam filtering.

OUTLOOKS :

This internship may potentially lead to a PhD opportunity within the ANR-funded IDEAL project.

BIBLIOGRAPHY :

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