

# OXYGEN PRESSURE DEPENDENT VO<sub>2</sub> FILMS DEPOSITED BY A KRF LASER ON A CORNING GLASS

S. LAFANE, T. KERDJA, S. ABDELLI-MESSACI, S. MALEK, Y. KHEREDDINE

*Equipe Interaction Laser-Matière, Centre de Développement des Technologies Avancées, Alger, Algérie.*

**ABSTRACT.** Vanadium dioxide thin films have been deposited on Corning glass substrates by a KrF laser ablation of V<sub>2</sub>O<sub>5</sub> target at the laser fluence of 1.5 Jcm<sup>-2</sup>. The substrate temperature and the target-substrate distance were set to 500°C and 4cm respectively. X-ray diffraction analysis showed that pure VO<sub>2</sub> is only obtained at an oxygen pressure range of 10<sup>-3</sup> – 5 × 10<sup>-2</sup> mbar. The structural films properties were correlated to the plume dynamics studied by fast imaging.

**KEYWORDS:** VO<sub>2</sub>, PLD, XRD, plume dynamics.