

PULSED LIQUID INJECTION MOCVD OF MAGNESIUM OXIDE THIN FILMS

S. THOLLON, E. ROUVIERE, F. EMIEUX¹
H. GUILLON²

¹ CEA Grenoble, Laboratoire des procédés de traitement de surface, Service des Matériaux et Procédés, Département des Technologies des Energies Nouvelles, 17, rue des Martyrs, 38 054 GRENOBLE cedex 9.

Phone : 33 4 38 78 34 60 _ Fax : 33 4 38 78 46 21

E-mail : thollonst@chartreuse.cea.fr

² JIPELEC, 11 Chemin du Vieux Chêne, F-38240 MEYLAN

Phone : 33 4 76 04 06 06

Fax : 33 4 76 04 81 40

web site: www.jipelec.com

NaCl-type Magnesium oxide layers were prepared using the pulsed liquid-injection metalorganic chemical vapor deposition technique. Depositions have been carried out in air at atmospheric pressure using different single molecular precursors such as Mg(tmhd)₂, Mg(acac)₂ and Magnesium 2-Ethylhexanoate. The structure, composition and morphology of the MgO thin films were analyzed using X-ray diffraction, Rutherford Backscattering (RBS) technique and Scanning Electron Microscope (figure 1). Structural characteristics and growth rates of the MgO as-grown layers have been found to be strongly influenced by precursor type and process parameters.

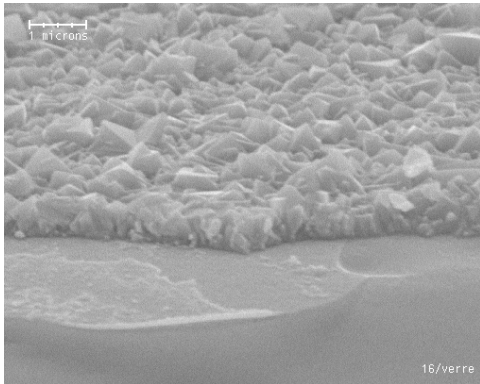


Fig. 1 : SEM micrograph of MgO coating grown by pulsed liquid-injection MOCVD