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**INFLUENCE OF THE SUBSTRATE ON THE STRUCTURE STABILITY****LaLuO<sub>3</sub> THIN FILMS DEPOSITED BY PLD METHOD**

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**ABSTRACT**

LaLuO<sub>3</sub> amorphous thin films were elaborated by pulsed laser deposition technique on different support: Si (100), Si(100) with buffer layer CeO<sub>2</sub>, MgO(111) and Al<sub>2</sub>O<sub>3</sub> (1101). For obtained the crystallizes phase the thin films were annealed in temperature 1100 °C in air during 2 h. TEM analysis clearly showed the reaction between Si support and LaLuO<sub>3</sub> thin films and their polycrystalline structure. The spectroscopy investigations indicate the reaction between Si support and LaLuO<sub>3</sub> thin films and formation of silicates. The CeO<sub>2</sub> thin buffer layers on Si support limited the reaction between support and thin films. No reactions were observed between the surface Al<sub>2</sub>O<sub>3</sub> and MgO and thin films.

**KEYWORDS**

Thin films LaLuO<sub>3</sub>, PLD, XPS

**1. INTRODUCTION**

One of the most important processes in the MOSFET(*Metal-Oxide Semiconductor Field-Effect Transistor*) technology is the gate dielectric deposition. The silicon technology of excellent quality natural gate dielectric in the form of SiO<sub>2</sub> has become the driving force in the development of microelectronics. Currently, however, other

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