

PEALD grown high-k ZrO₂ thin films on SiC group IV compound semiconductor

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The study of ZrO₂ thin films on SiC group IV compound semiconductor has been studied as a high mobility substrates. The ZrO₂ thin films were deposited using the Plasma Enhanced Atomic Layer Deposition System. The thickness of the thin films were measured using ellipsometer and found to be 5.47 nm. The deposited ZrO₂ thin films were post deposition annealed in rapid thermal annealing chamber at temperature of 400°C. The atomic force microscopy and x-ray photoelectron spectroscopy has been carried out to study the surface topography & roughness and chemical composition of thin film respectively.

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