

Title of your abstract

Authors' name and affiliations

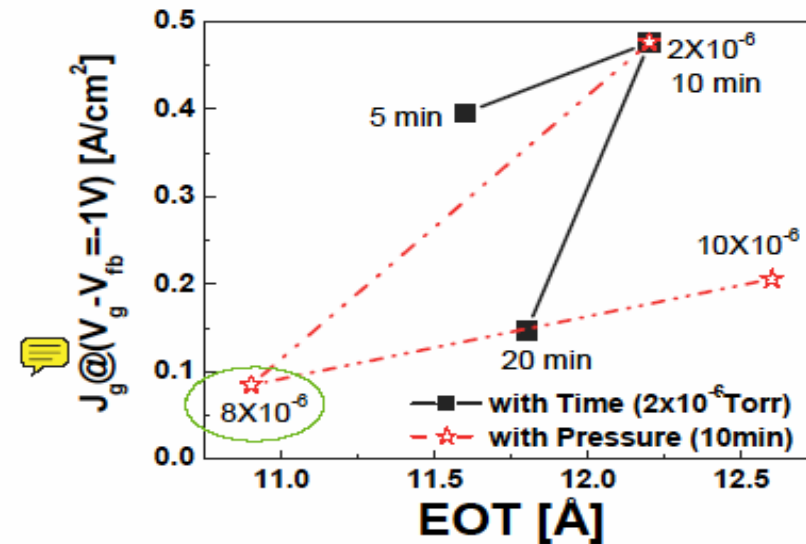
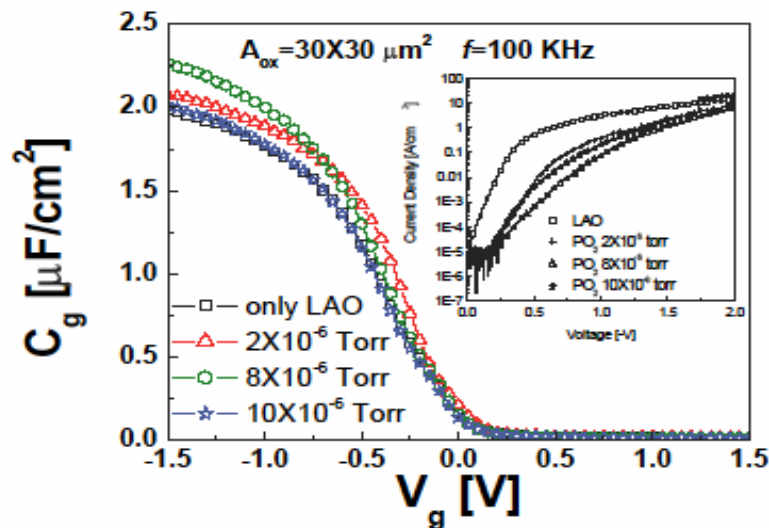
Impact of Interfacial SiO₂ on LaAlO₃ (LAO)

Thin SiO₂ is formed by introducing O₂ at high temperature

O₂ pressure and Time is varied for best results

LAO, 30 Å, is deposited at 250°C and 8X10⁻⁶ Torr for every sample

C-V and I-V were measured



The Results is summarized for different samples

Here the C-V and I-V at different O₂ pressure during SiO₂ growth is shown

The best results were found for PO₂=8X10⁻⁶ Torr for 10 minutes

EOT=10.9 Å, J_g=0.085 A/cm² at -1.0 Volt

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X-ray Photoelectron Spectroscopy analysis (XPS)

LAO with and without SiO₂ passivation layer is analyzed

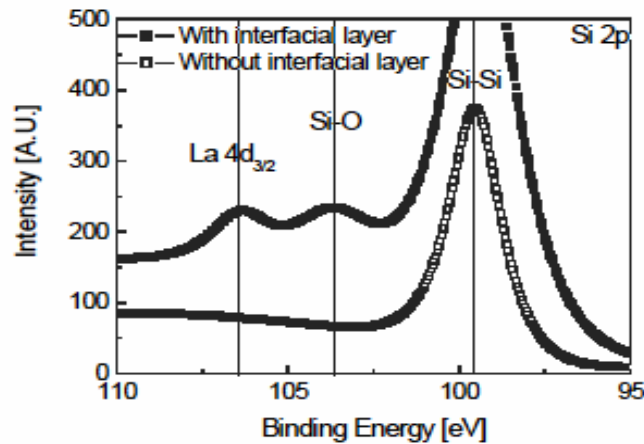
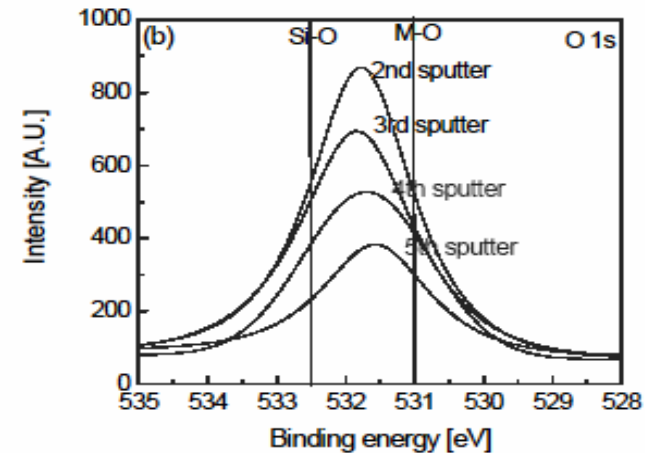


Figure shows the Si 2p peak at the interface for both sample with and without SiO₂

Sample with SiO₂ shows a small peak at binding energy 103.3 eV; Si-O binding energy

We have intentionally grew SiO₂ and its presence at the interface indicates its stability and cause of lower leakage current



This O 1s peak position is in between Metal-O and Si-O for the sample with SiO₂ interfacial layer; indicating formation of silicates at the surface also at the interface