

Low damage cyclical etching of GaN and AlGaIn – supporting data

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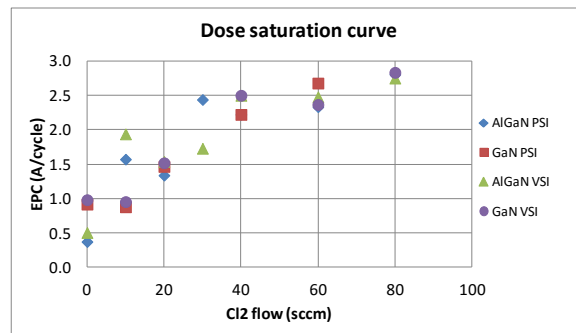


Figure 1 Etch per cycle of GaN and AlGaIn in a chlorine (dose) and argon etch ALE cycle. The data points for PSI and VSI relate to the same sample, but different methods of measuring film thicknesses using a confocal microscope. (Phase shift interferometry and Vertical scanning interferometry). The scatter in data is larger for smaller etch depths.

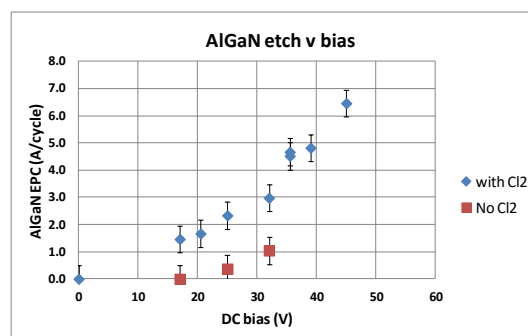


Figure 2 AlGaIn etch per cycle v DC bias in the etch step. 60 sccm Cl₂ dose, 6 sec purge, 4 sec etch. Data also taken omitting the chlorine dose step to show the onset of sputtering; and omitting the bias step (zero bias point) to show that both dose and bias steps are required to achieve etching.

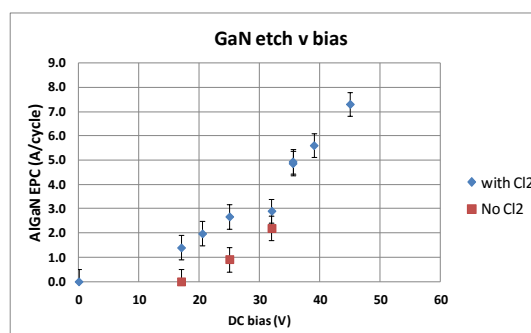


Figure 3 GaN etching under the same conditions as Figure 2, also showing the synergy effects of bias and chlorine dose.