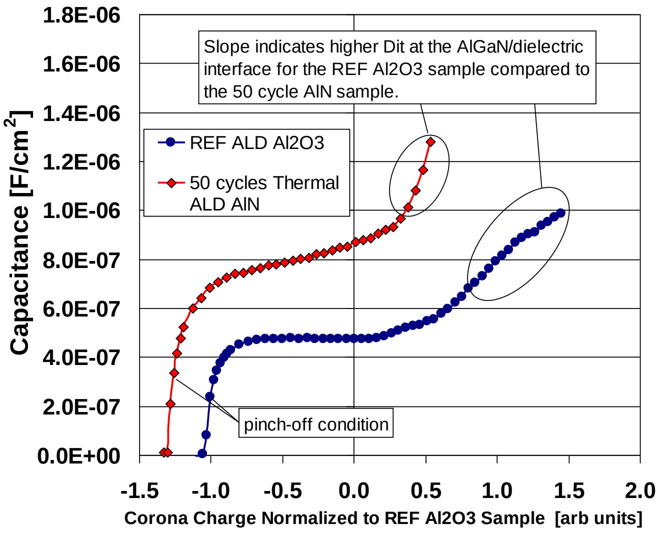

Figure 1. Corona non-contact CQ characteristics for thermal ALD AlN and reference ALD Al_2O_3 on normally -on HEMT samples [1]. At Q= 0 the 2DEG is populated.

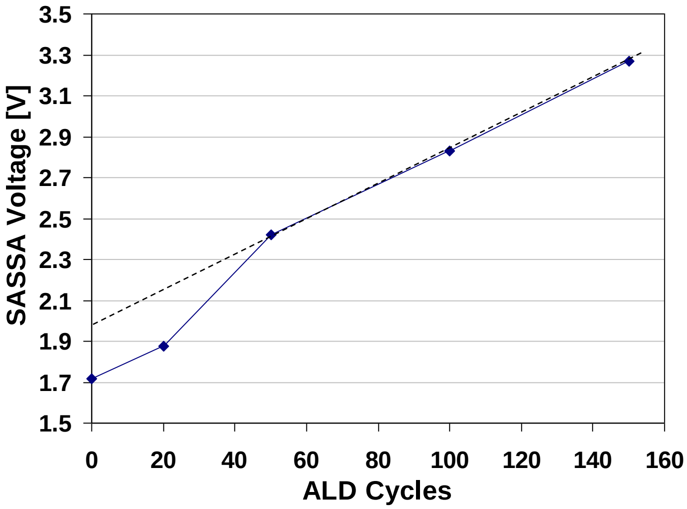

Figure 2. SASS voltage (measure of physical thickness) versus thermal ALD growth cycles for AlN on AlGaN. Results indicate an incubation effect below 50 cycles [1].

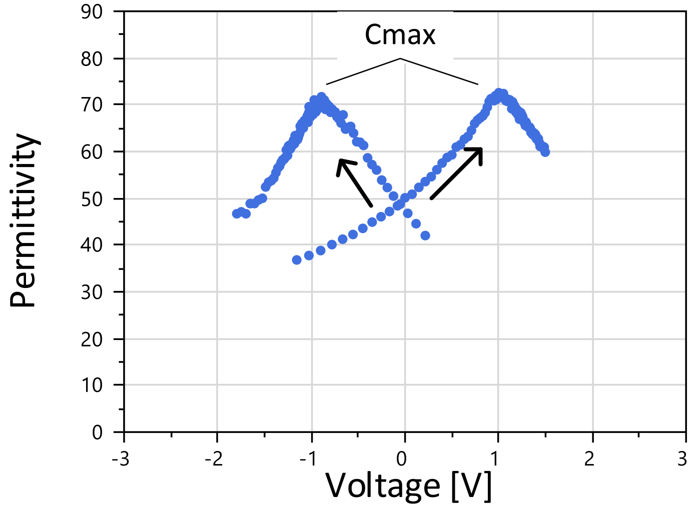

Figure 3. Ferroelectric Si doped HfO_2 permittivity curve measured with the noncontact charge-based method.

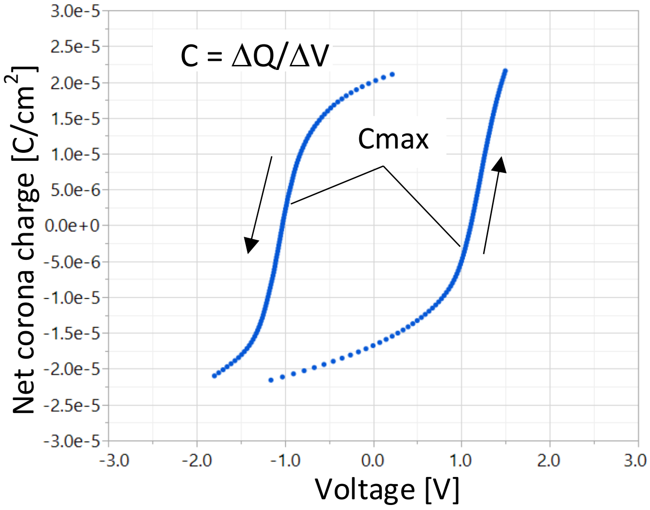

Figure 4. Ferroelectric Si doped HfO_2 VQ hysteresis curves measured using charge-induced poling.

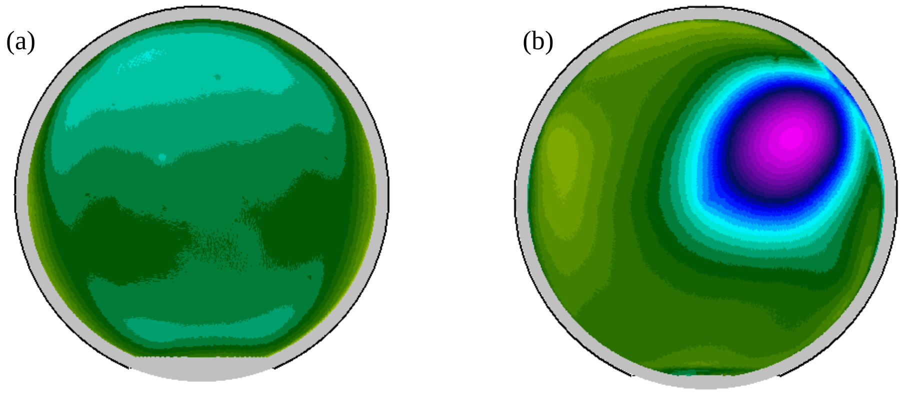

Figure 5. High speed initial surface voltage maps of a uniform reference sample of ALD Al_2O_3 on HEMT (a) and a non-uniform thermal ALD AlN on HEMT sample (b).

Reference: [1] M. Wilson and H. Ziad, “Using the CnCV Technique to Explore AlN as an Alternative Passivation Layer in GaN HEMT Technology”, abstract accepted to CS Mantech 2021.