

Fig 1 C-V of MIM with HOOH and H₂O co-reactants : (a) MIM capacitors with TiN electrodes. Thicknesses were 5.0 nm (HOOH) and 5.5 nm (H₂O) (b) MIM capacitors with W electrodes. HfZrO₄ films fabricated with HOOH show a ~2x boost in capacitance over films made with H₂O. Thicknesses were 5.0 nm (HOOH) and 5.5 nm(H₂O)

Fig 2 Heuristic Model of Domain Wall Permittivity: model showing suppressed polarization in domain walls exhibit high permittivity.

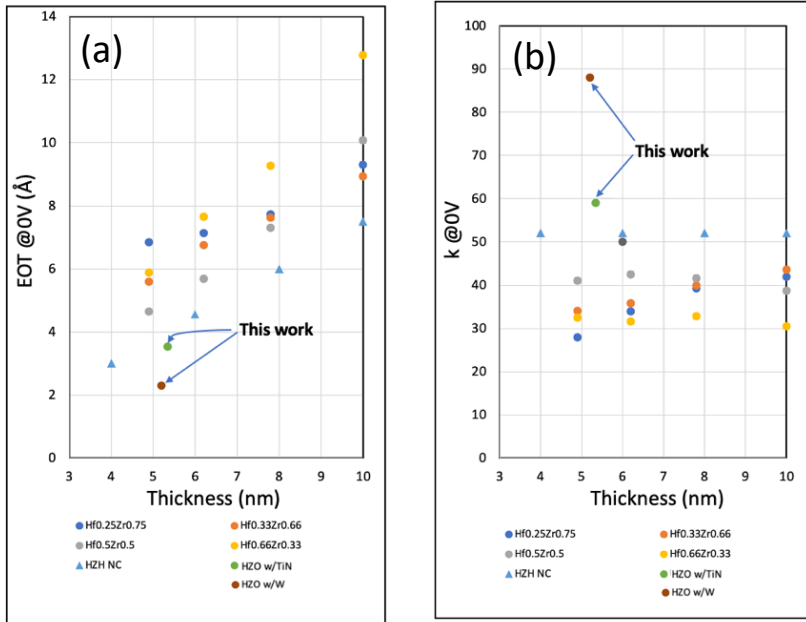


Fig 3 EOT and K value Benchmarking: (a) EOT @0V vs HfZrO₄ thickness. (b) k @0V vs HfZrO₄ thickness. Record low EOT and high-k value HfZrO₄ sample fabricated using HOOH.

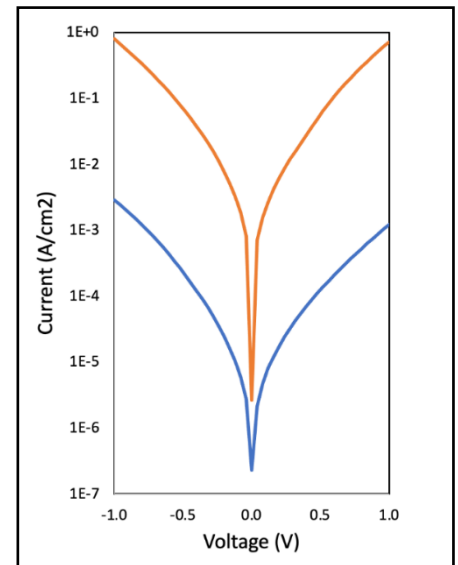


Fig 4 W and TiN leakage: Higher leakage with W electrodes (orange) compared to TiN electrodes (blue) may be through grain boundaries.