

Supplemental Page

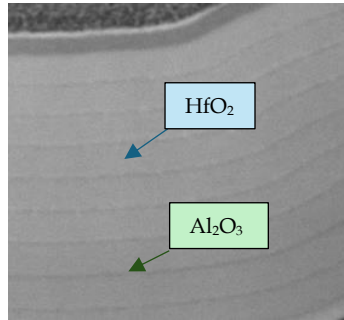


Figure 1: Cross-sectional SEM image of HfAlO_x nanolaminate showing HfO₂ layers (thick layer, blue label) and Al₂O₃ layers (thin layer, green label)

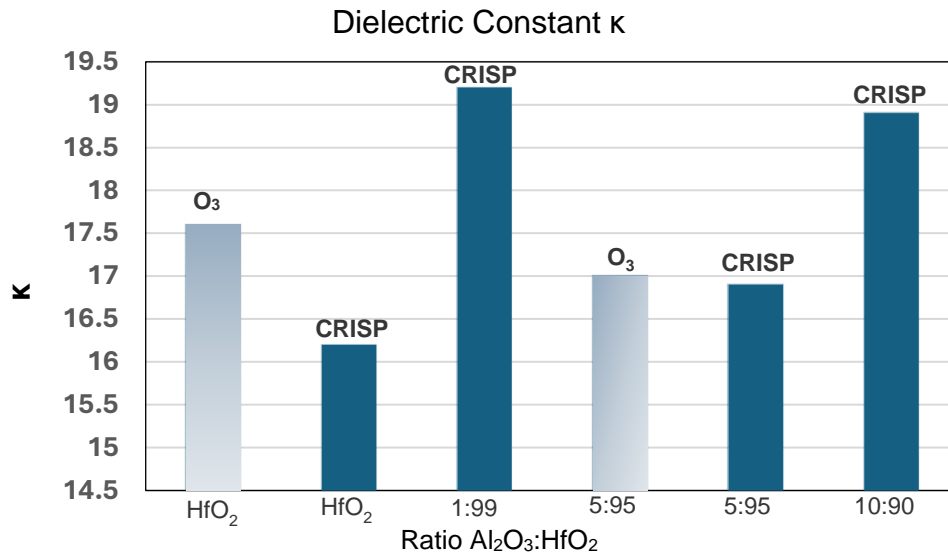
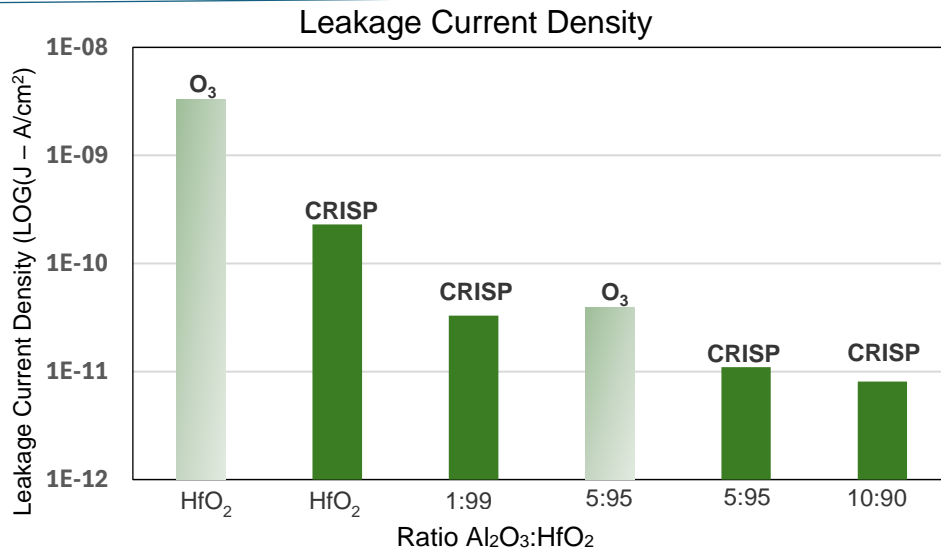


Figure 2: Plots showing leakage current density (top) and dielectric constant (bottom) for various AlHfO_x nanolaminate compositions. The first two data points are HfO₂ monoliths. For both data sets the lighter coloration indicates HfO₂ grown with an ozone process, while the darker color indicates HfO₂ grown with the CRISP process. Optimized film performance entails decreasing leakage current density and increasing dielectric constant.