MOSFET Parts: physical structures routinely measured by HR-XRD & XRR

**Metal layers:** Cu, Al-Cu, W
  - Thickness, phase, orientation, stress

**Barrier layers:** Ta/TaN, Ti/TiN, W/WN
  - Thickness, phase, density

**Low-k layers:** Black Diamond, DiLK
  - Thickness, porosity

**Silicides:** WSi, TiSi, CoSi, NiSi
  - Thickness, phase

**Gate Oxides (High-k):** SiO2, SiNO, Ta2O5, HfO2
  - Thickness, phase, crystallinity

**Channels:** epi-SiGe, strained Si
  - Thickness, composition, relaxation

**Substrates:** Si, SOI, sSOI
  - Oxide thickness, Ge profile, mis-cut angle