

Quantifying oxygen diffusion in epitaxial SrTiO₃ thin films

Sihang Hui,¹ Keon Sahebkar,¹ Nathan D. Arndt,¹ Ryan F. Need¹

¹Department of Materials Science and Engineering, University of Florida, Gainesville, FL 32611, USA

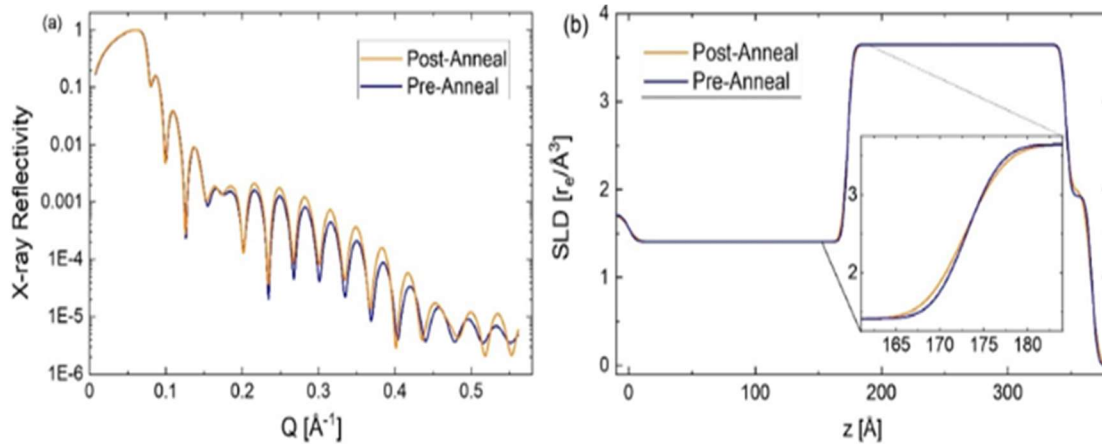


Figure 1: a) X-ray reflectivity of a Ta/STO bilayer before and after a 30 min. vacuum anneal at 673 K. The thin surface layer is Ta₂O₅ formed on the Ta cap when removed from the growth chamber, as shown by its presence pre-anneal. b) SLD profile fit to the curves in Fig.1 (a) with an inset showing the change in the interface of the Ta/STO interface.