

Aaron Engel, et al. *Substrate preparation and MBE growth of high quality α -Sn topological insulator thin films on InSb(001) surface*

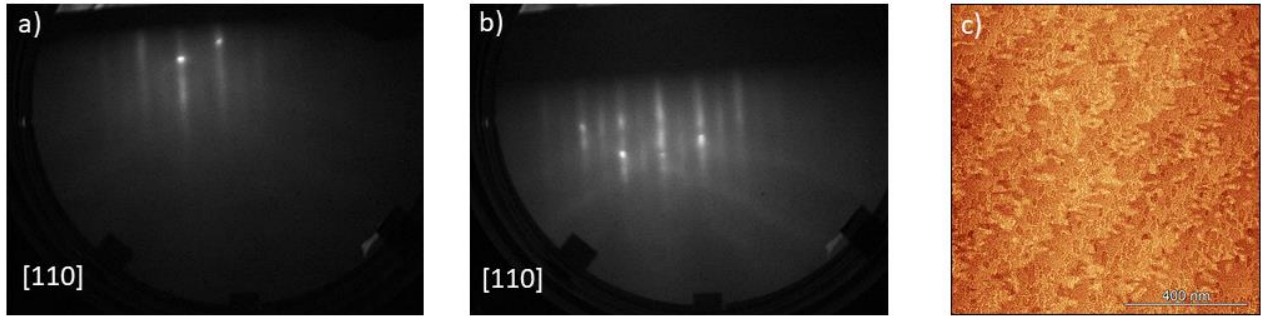


Figure 1: RHEED of Sn growth on the a) In-terminated and b) Sb-terminated InSb(001) surfaces show the ideal $(2 \times 1)/(1 \times 2)$ reconstruction. All growths show RHEED oscillations throughout. c) A $1 \mu\text{m}^2$ scanning tunneling microscopy image of 13 ML α -Sn/In-terminated InSb shows terraces with heights corresponding to ML steps.

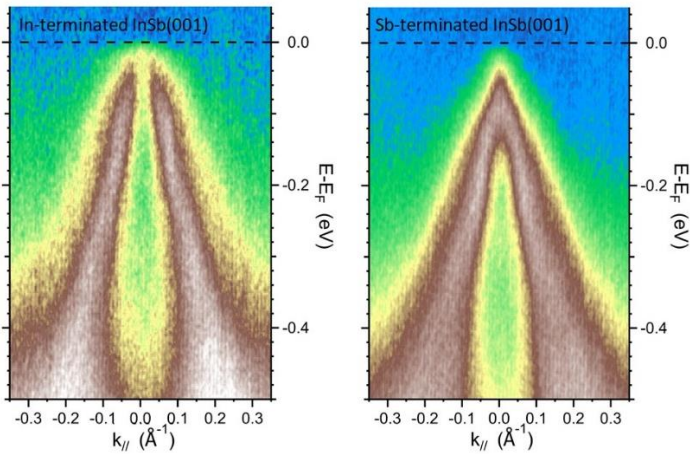


Figure 2: ARPES spectra of the $\bar{X} - \Gamma - \bar{X}$ slice of the surface states of 13 ML of α -Sn grown on InSb(001) with a Left: In-terminated surface. Right: Sb-terminated surface. The reduction in hole doping is evident in the movement of the Dirac node with respect to the Fermi level.

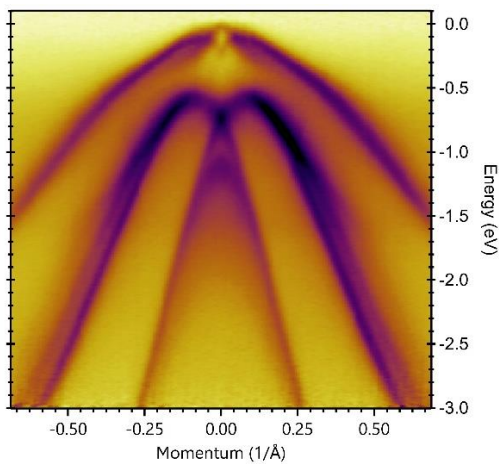


Figure 3: Bulk sensitive ARPES around the bulk Γ point in the $K - \Gamma - K$ direction on the Sb-terminated sample. High resolution allows observation of additional band features not seen in prior studies.