

Figure 1: a) TEM analysis of IMF formation between the GaSb/GaAs layers. b) AlSb defect filter layer is included in the structure. X-TEM and c) Plan-view TEM showing  $3 \times 10^7$  dislocations/cm<sup>2</sup>

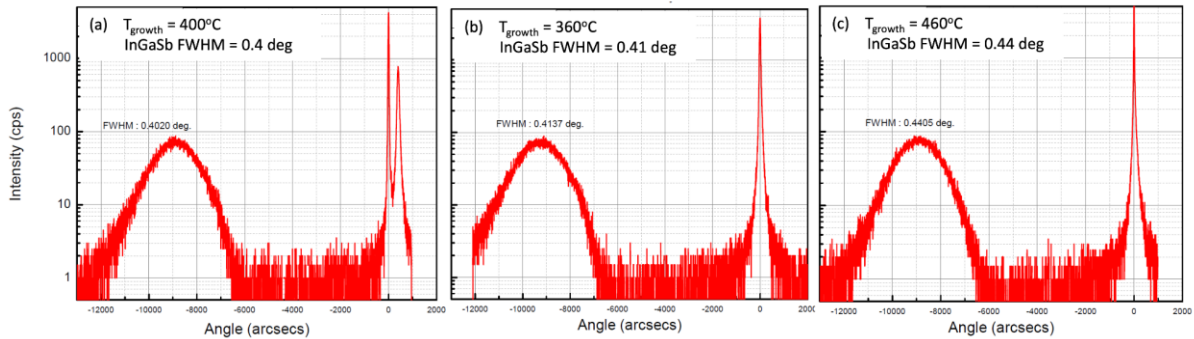


Figure 2: HR-XRD analysis of InGaSb IMF layers grown at 400, 360 and 460 degrees celsius. There is some change in FWHM of the InGaSb peak but the peaks are broad and symmetric.

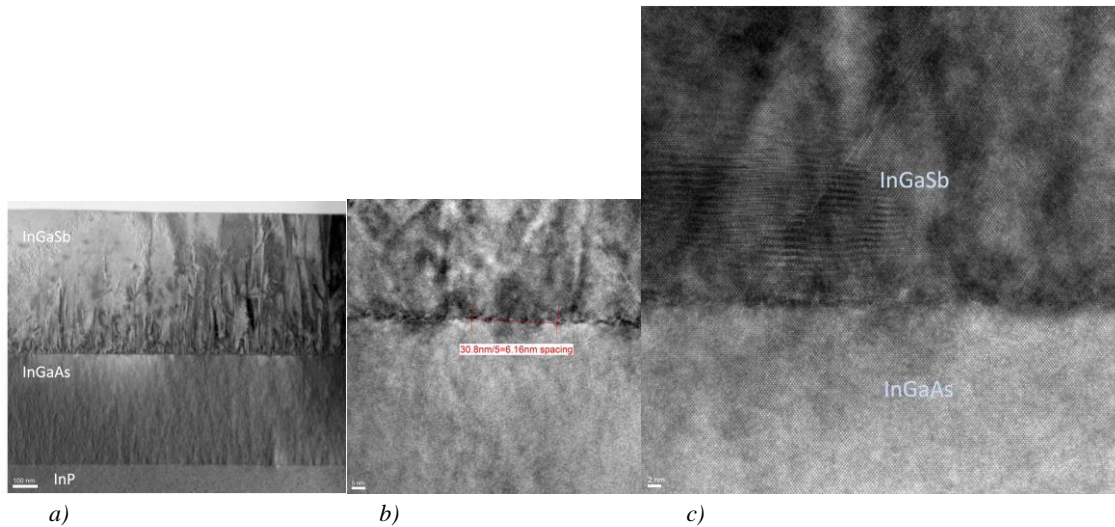


Figure 3: TEM analysis of the sample grown at 400 C shows the presence of an IMF layer between the InGaSb/InGaAs layers. Figure (a) shows all three layers, (b) shows the interface between InGaSb and InGaAs and the presence of a periodic misfit dislocation array and figure (c) is a high resolution image showing the presence of different crystal orientations in the growth .