

Fig. 1. (a)-(c) AFM micrographs displaying the surface morphology after 5 nm of AlSb (0.1 MI/s) and 1  $\mu\text{m}$  of GaSb (0.5 MI/s) deposition. Vertical scale for (a) and (b) are 40 nm while for (c) the scale is 20 nm. Images show a low RMS roughness for each of the scan areas which indicates that dislocations are mostly concentrated closer to the AlSb/Si interface. (a)  $10 \times 10 \mu\text{m}^2$  area scan. (b)  $5 \times 5 \mu\text{m}^2$  area scan. (c)  $2 \times 2 \mu\text{m}^2$  area scan

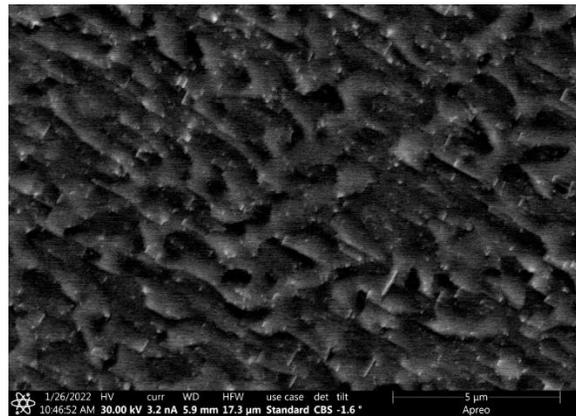


Fig. 2. EECI scan of the sample from figure 1 which displays threading dislocations spread throughout the AlSb and GaSb. Note that bright areas represent said dislocations. EECI shows a TDD of  $6 \times 10^8 \text{ cm}^{-2}$  which is comparable to other trials in which twice as much GaSb (2  $\mu\text{m}$ ) was deposited.