

Figure 1: MBE grown GaAs solar cell on NaCl layer using GaAs $(100)\pm 0.1^\circ$ substrate (a) images of the 2×2 cm sample after removal from the chamber and (b) of a cleaved section from (dotted line in 1) showing the device layers after removal from the substrate attached to Kapton tape on the right. Cross section SEM images from areas (c) with and (d) without RHEED exposure. (e) TEM image and (f) plan-view EBSD from area with RHEED exposure showing the epitaxial GaAs cell. The scale bars for all images are $1\ \mu\text{m}$.

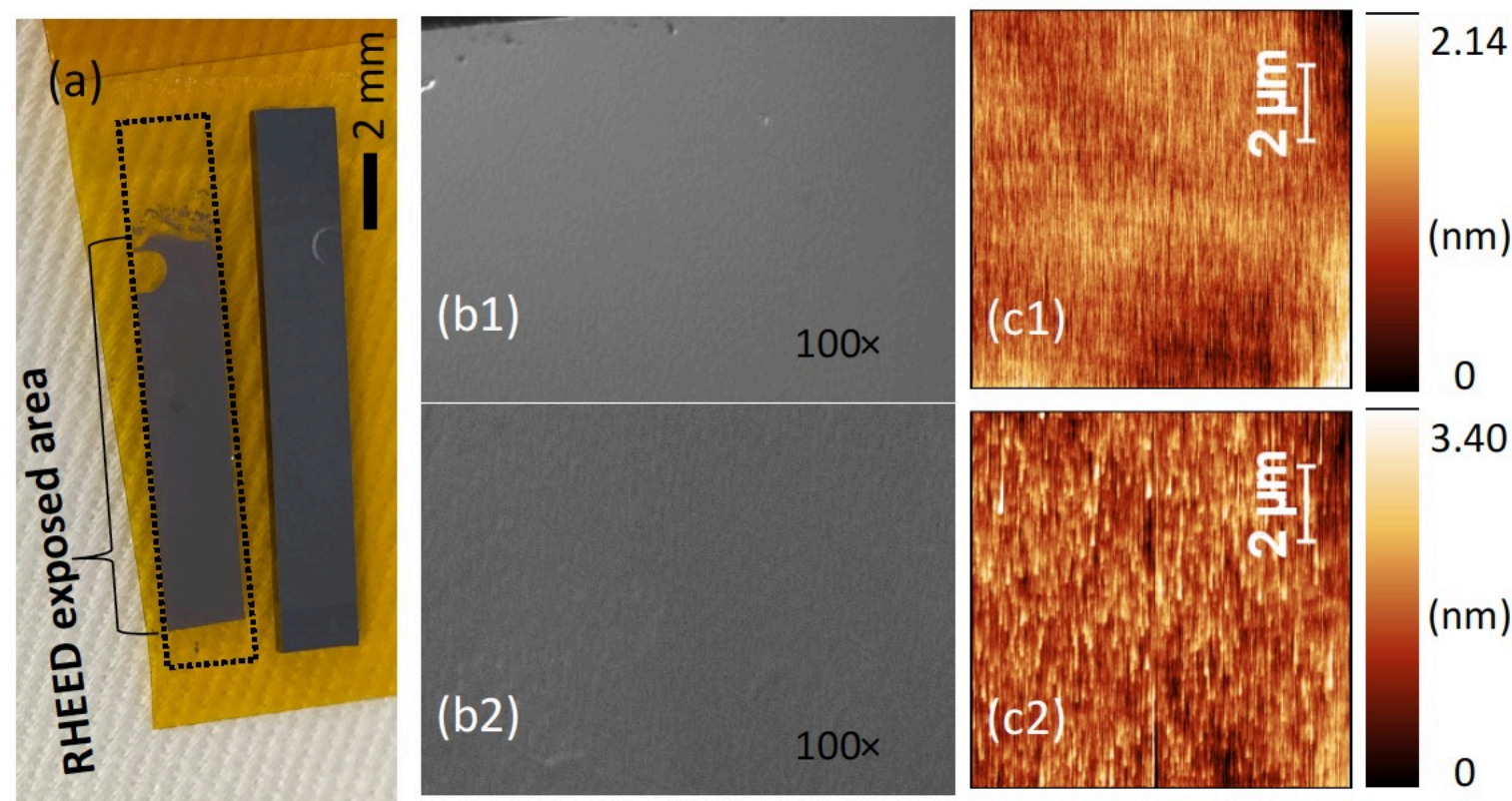


Figure 2: (a) Image of substrate (left) with separated GaAs overlayer (right) on Kapton tape, the outline of where the entire piece was originally attached is outlined by the dotted line. Removed area was exposed to RHEED. (b) $100\times$ Nomarski images and (c) AFM images of (1) a substrate after buffer layer growth and (2) after film liftoff

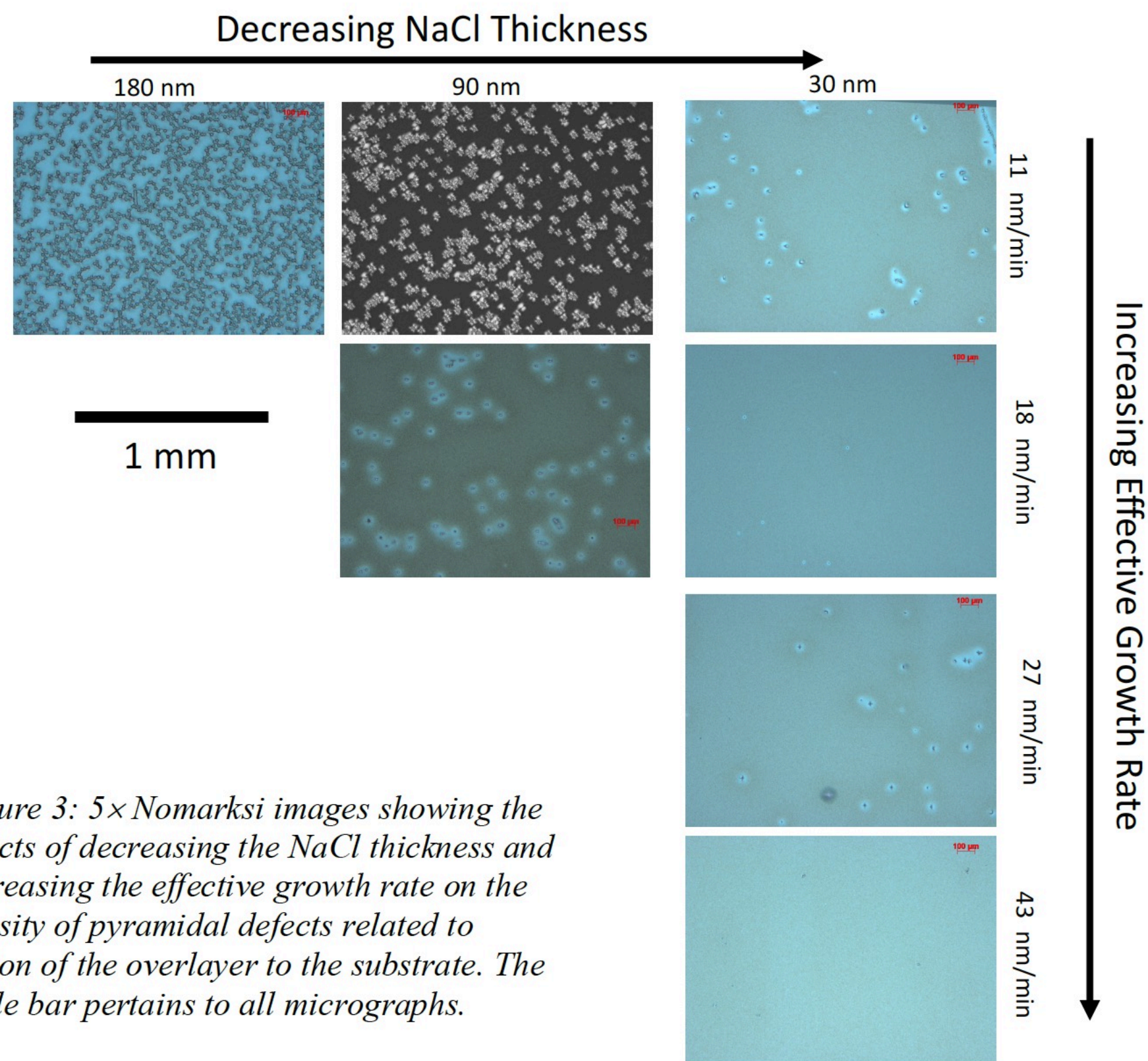


Figure 3: $5\times$ Nomarski images showing the effects of decreasing the NaCl thickness and increasing the effective growth rate on the density of pyramidal defects related to fusion of the overlayer to the substrate. The scale bar pertains to all micrographs.