

Supplemental Information

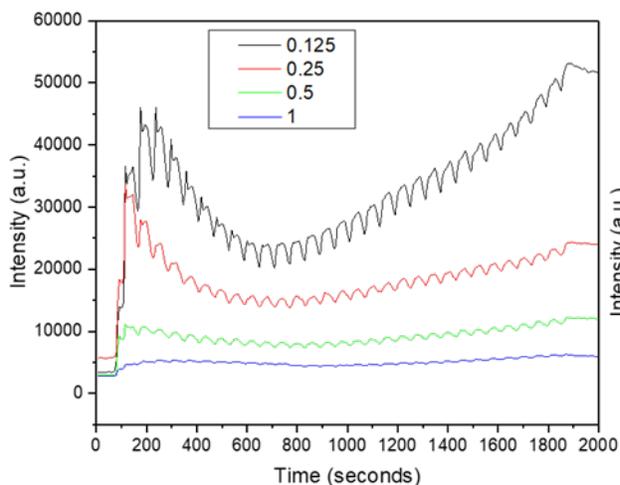


Fig. 1. Evolution of GISAXS scattering intensity at various length scales during an emulated gallium flash off atomic level processing of GaN substrate surfaces at 500°C. ALP cycles are evident as is a minimum in scattering after 10 cycles.

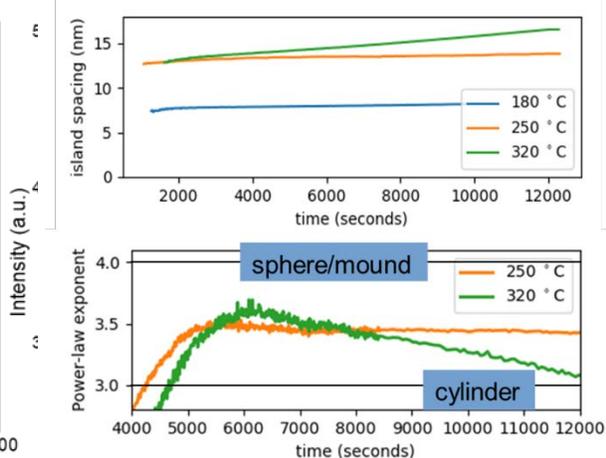


Fig. 2. Evolution of island spacing and island shape during InN growth on optimally prepared GaN substrate surfaces at temperatures between 180C and 320C. Clear coarsening of island size is observed at 320C as is a transition of island shape from hemispherical mounds to cylinders.

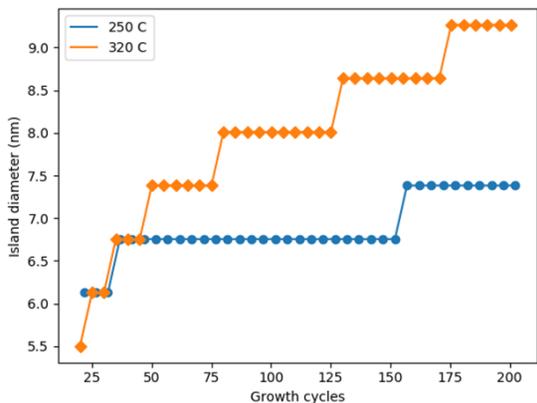


Fig. 3. Evolution of InN island diameter with growth time at 250 and 320°C. Island diameter derived from Hankel transformation of GISAXS scattering data. Behavior suggests more two-dimensional growth at 320°C.

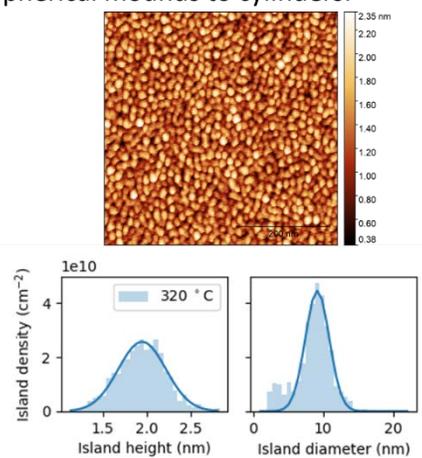


Fig. 4. Post growth atomic force micrograph and analysis of InN film grown on GaN substrates at 320°C confirming island diameter and elucidating the island height.