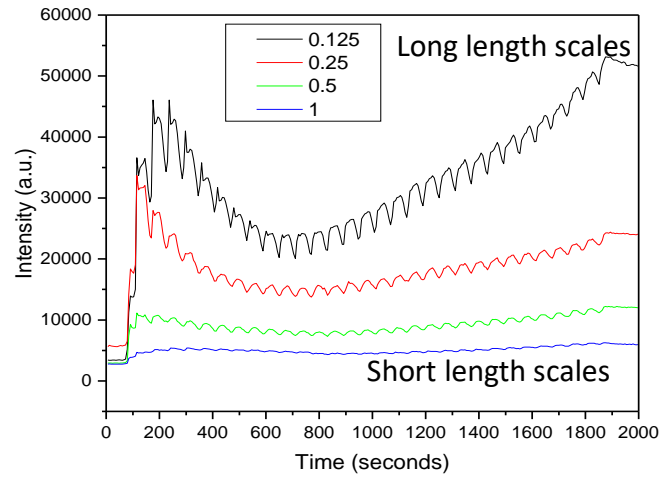
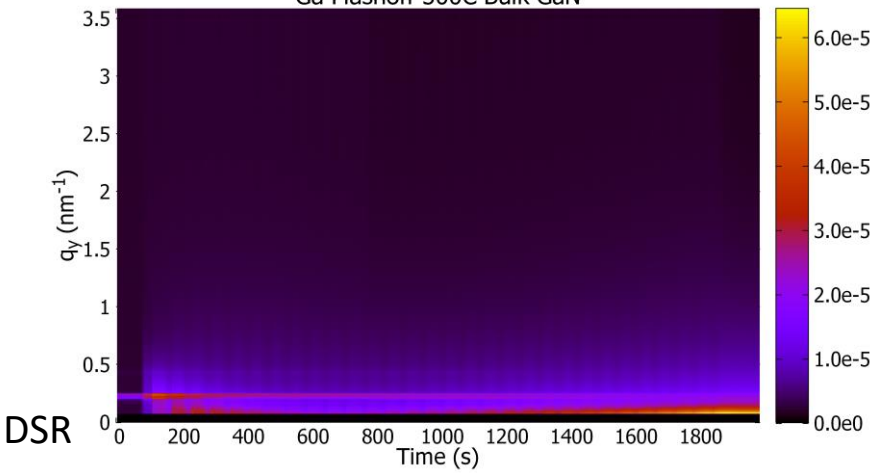


## Supplementary Page

### a) Bulk GaN at 500C

Ga Flashoff 500C Bulk GaN



### b) Bulk GaN at 400C

Ga Flashoff 400C Bulk GaN

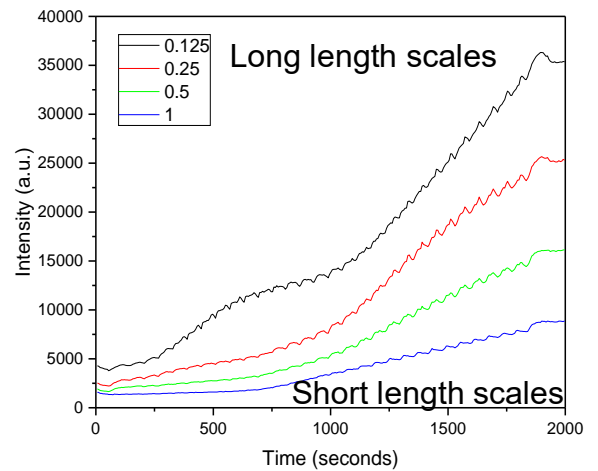
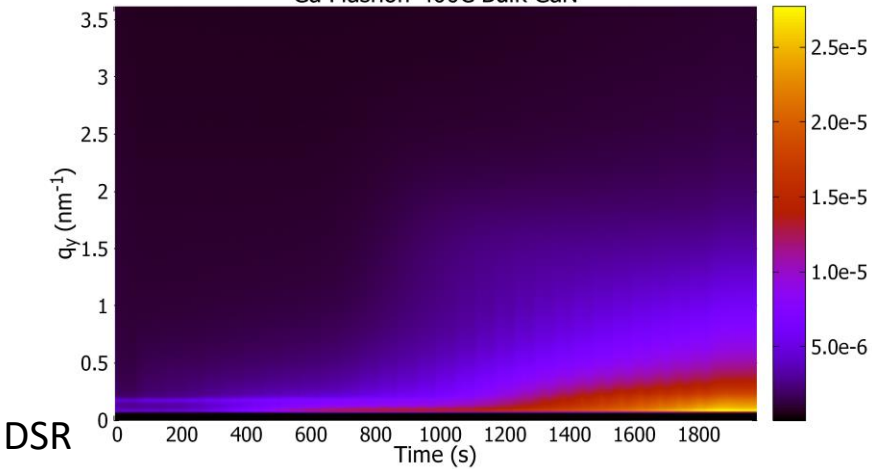


Figure 1: GISAXS monitoring of an ALP gallium flash-off of a GaN film a) at 500°C b) at 400°C. At 400°C increased scattering intensity indicates increased surface roughening, not seen at 500°C, indicating that ALP gallium-flash off produces a smoother surface at higher temperatures. Graphs on the right, at different length scales, show that at 500°C, after 10 cycles the GaN surface has smoothed but continuing the Ga flash off process leads to a roughening of the surface, whereas at 400°C surface roughening is the dominate process.