

substrate

450

400

500

550

Figure 3.  $2\theta$ - $\omega$  X-ray diffraction diffraction patterns of uid-GaN (grey, offset) and different levels of U-doping over a (a) wide angle and (b) the first order substrate peaks. Circles and squares indicate diffraction from the substrate. The precipitation of oriented material (stars) is observed with doping levels exceeding a certain amount.

Figure 4. Raman spectroscopy of GaN with different amounts of U-doping

600

Wavenumber (cm-1)

650

700

750

800