



Figure 1. X-ray diffraction reciprocal space maps using the (420) reflection in glancing incidence geometry for the (a) wafer sliced rough substrate and (b) chemical mechanical polished substrate. The ω and $\omega:2\theta$ scanning axes are marked, which correspond to the directions of peak broadening due to lattice tilt and strain, respectively. The wafer sliced substrate has severe lattice damage, which is predominately lattice tilt in character. The diffuse scatter intensity is also skewed, likely indicative of the anisotropic mechanical response to deformation (damage) in $\beta\text{-Ga}_2\text{O}_3$. After polishing, the diffuse scatter intensity is significantly reduced, which corresponds to removal of subsurface damage.