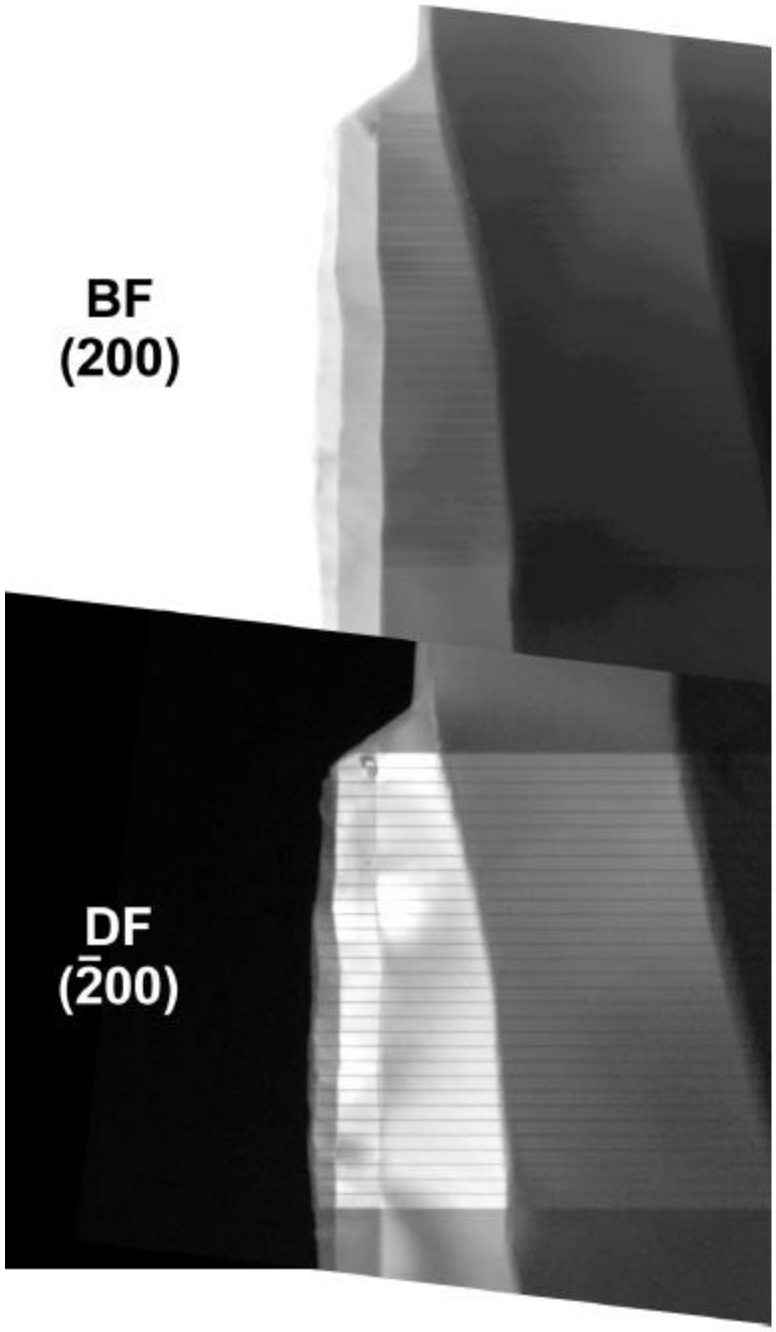
SACT PREPARED MBE QWIP STRUCTURE



$Al_xGa_{1-x}As/GaAs$ -QWIP
x = composition (expected/XRD)
QW thickness (expected/XRD)

As Cap	As termination
GaAs (Be - Doped)t=3401361 (0.5/0.47um)	
$Al_xGa_{1-x}As$ (x=0.3/0.314)	(500/485A)
⋮	
2 ML GaAs (undoped)	(5.65/5.73 A)
12 ML GaAs (Be - doped) t=23075 (33.9198/34.4A)	
2 ML GaAs (undoped) t=3846	(5.65/5.73A)
$Al_xGa_{1-x}As$ (x=0.3/0.314) t=238095	(500/485A)
GaAs (Be-Doped) t=6802721	(1/0.94 um)
GaAs(001)	substrate

} repeat 30 times

T_{sub}=800/615 °C
T_{Al} = 1137 °C
T_{Ga} = 980 °C
T_{Be} = 830 °C
T_{As} = 900 °C/390 °C/vp=0.75

Quantum Well Infrared Photodetector

THICKNESS MEASUREMENTS OF MBE QWIP STRUCTURE (on-[011])

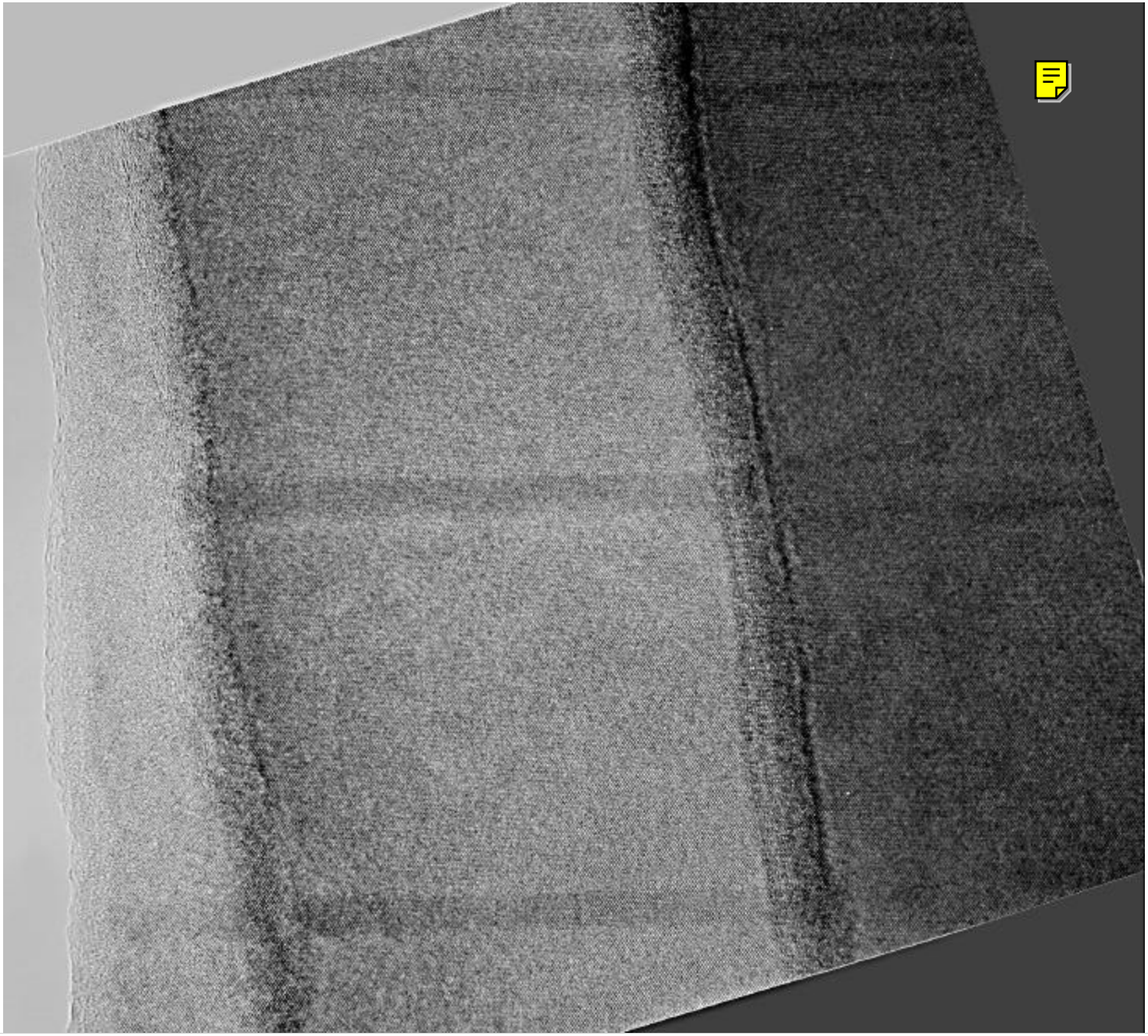
GaAs

AlGaAs

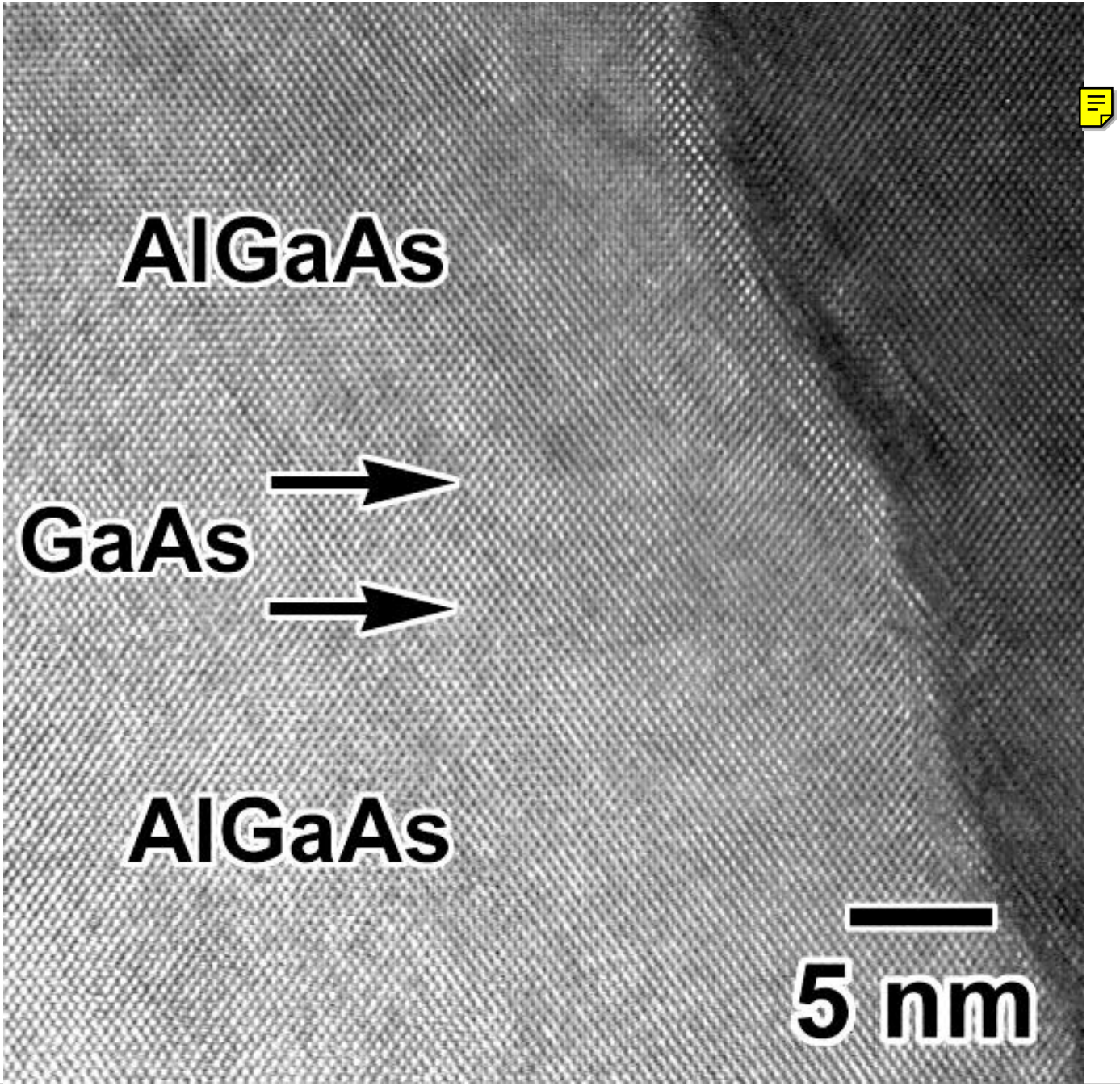
GaAs

AlGaAs

GaAs



THICKNESS MEASUREMENTS OF MBE QWIP STRUCTURE (on-[011])



Thickness Measurements of MBE QWIP Structure –off [011] along (200)