

## APPLICATION NOTES

### In-situ reflectance monitoring in MBE.

#### Advantages of *in-situ* reflectance monitoring

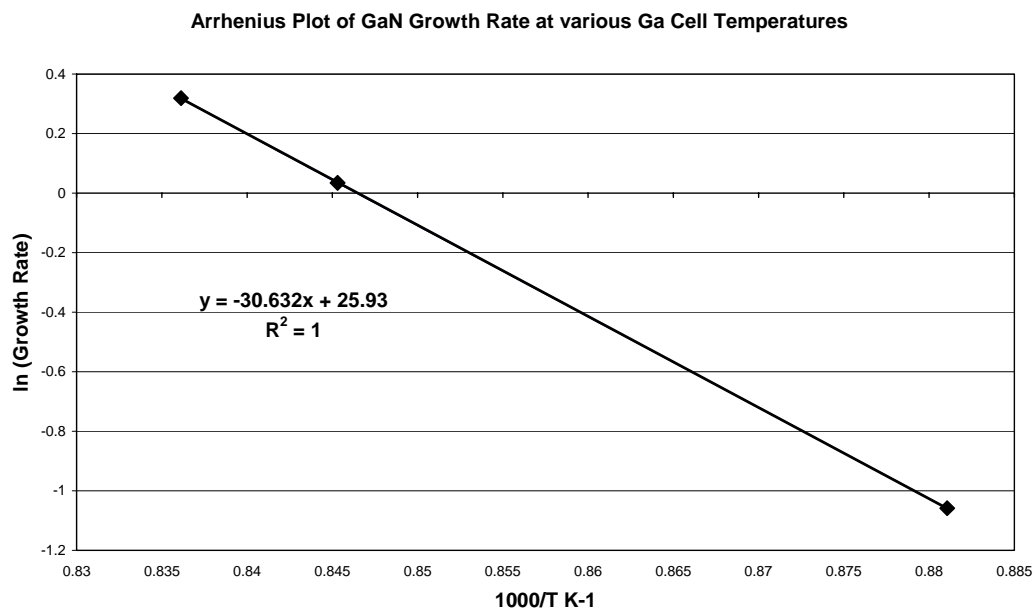
- ∞ Growth rate and thickness determination in real-time with R-Fit LIVE.
- ∞ Excellent correlation of in-situ results with dual crystal XRD measurements.
- ∞ Early identification of K-cell flux drift.

**Real time growth rate analysis.**

Material	Real Index	Imaginary Index	Rate (Å/s)	Thickness (Å)	Ex - situ (Å)
AlAs (layer 1)	3.282	0.000	1.479	157.0	153.0
GaAs (layer 2)	4.14	0.3002	3.042	558.3	558.0
AlAs (layer 3)	3.312	0.000	1.616	157.8	153.0

Excellent agreement between in-situ rate analysis using R-Fit LIVE, and ex-situ XRD measurements, for GaAs AlAs growth on GaAs.

**K-cell Flux monitoring.**



Varying the Ga cell temperature during GaN growth induces a change in K-cell flux. Fitting the subsequent growth rate highlights this flux change.