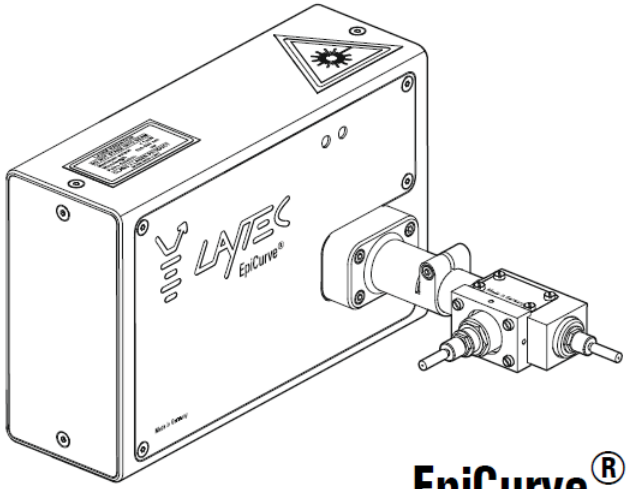
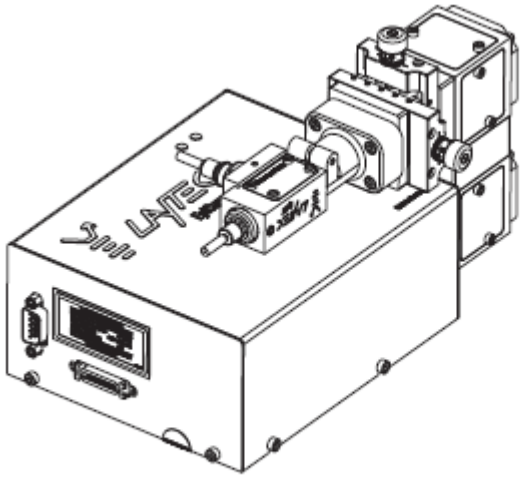
Webinar
June 2026

Bernd Henninger



EpiCurve® TT LP



EpiCurve® TT SP

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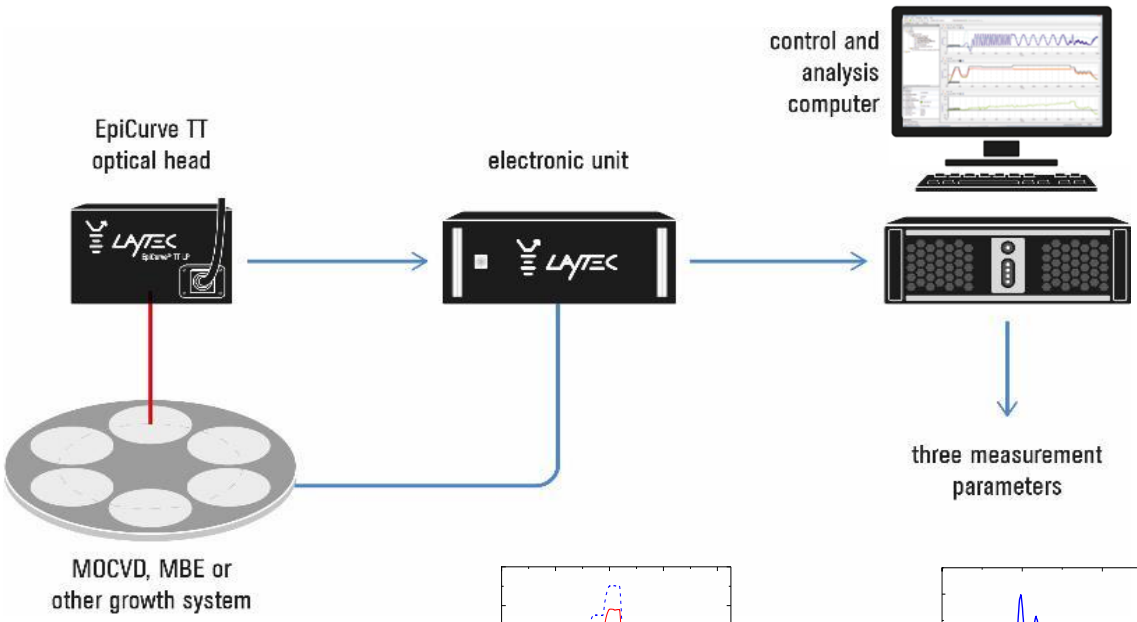
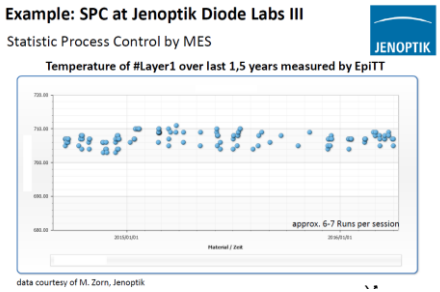
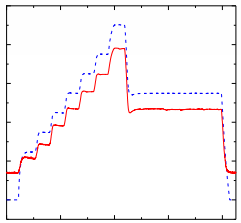
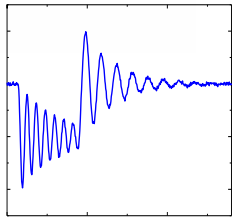
Data acquisition EpiCurve® TT



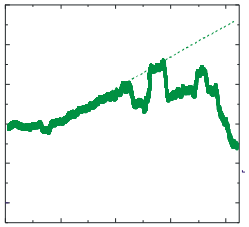




IR and UV pyrometry (emissivity corrected @ 810, **950**nm)



Multi λ reflectance (280, 365, **405**, 488, **633**, 810, **950**nm)

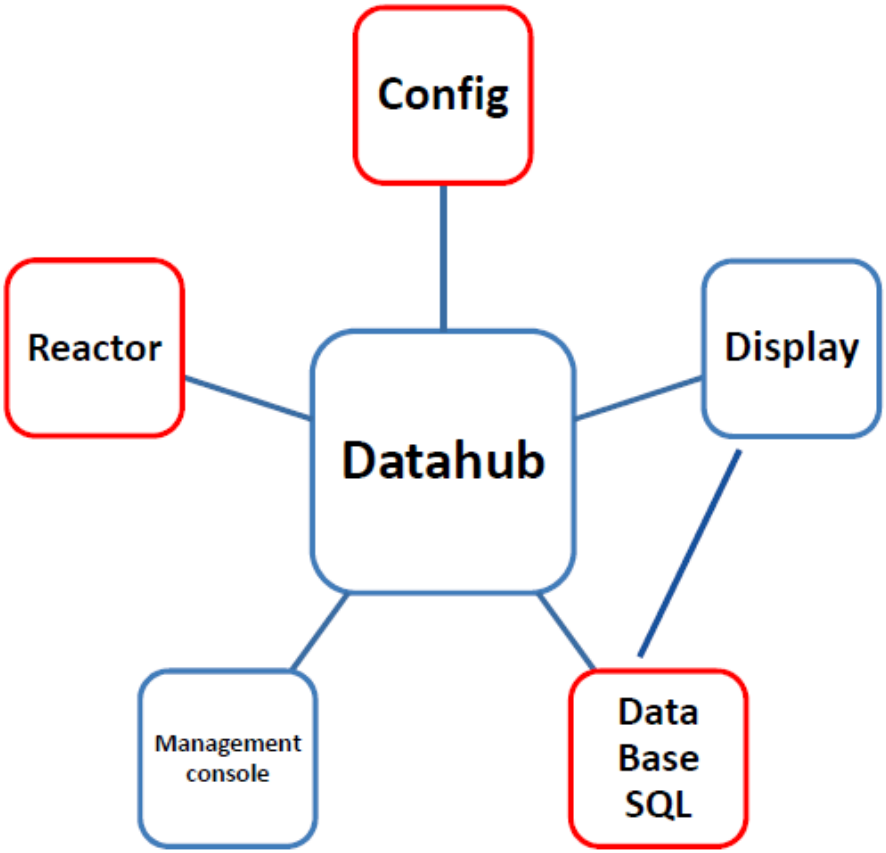


Wafer curvarture

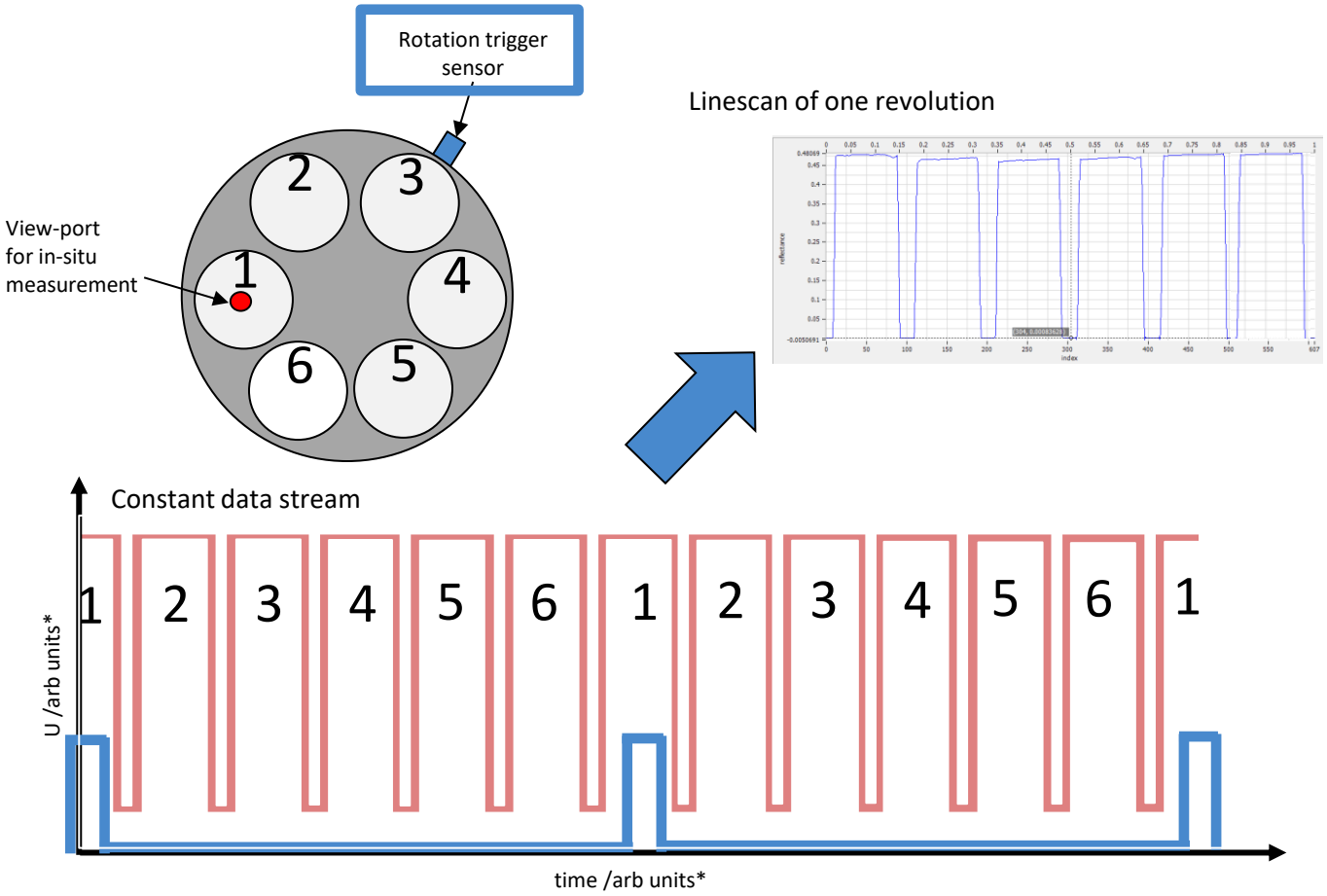
Modules

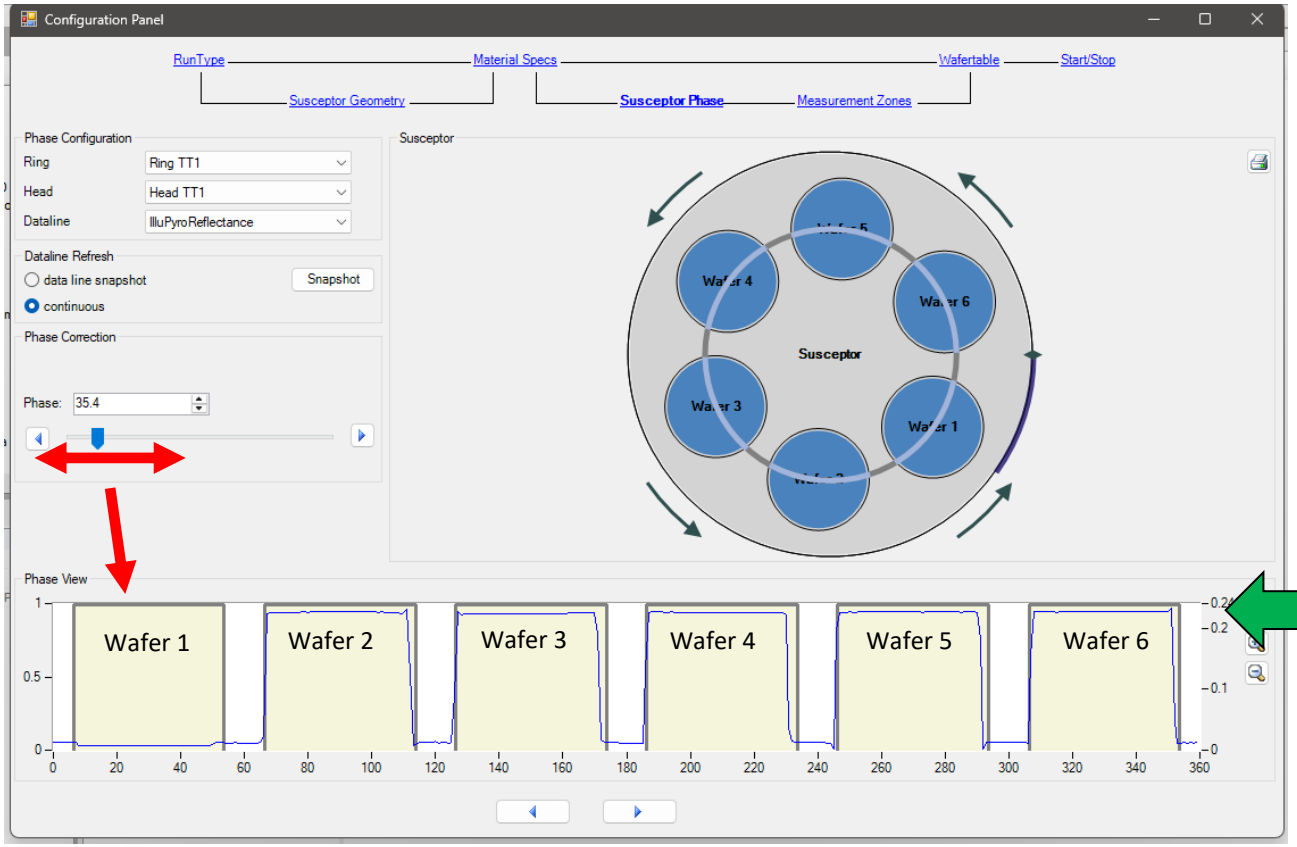
EpiNet Datahub as module communication center to

- **EpiNet 2 Display**
- **EpiNet Management Console**
- **Config folder**
- **Database (SQL Server)**
- **Reactor/Epitaxy software**



Data acquisition EpiCurve® TT





Check that reflectance across all wafer is same

Check that reflectance across one susceptor rotation is matching with wafer load

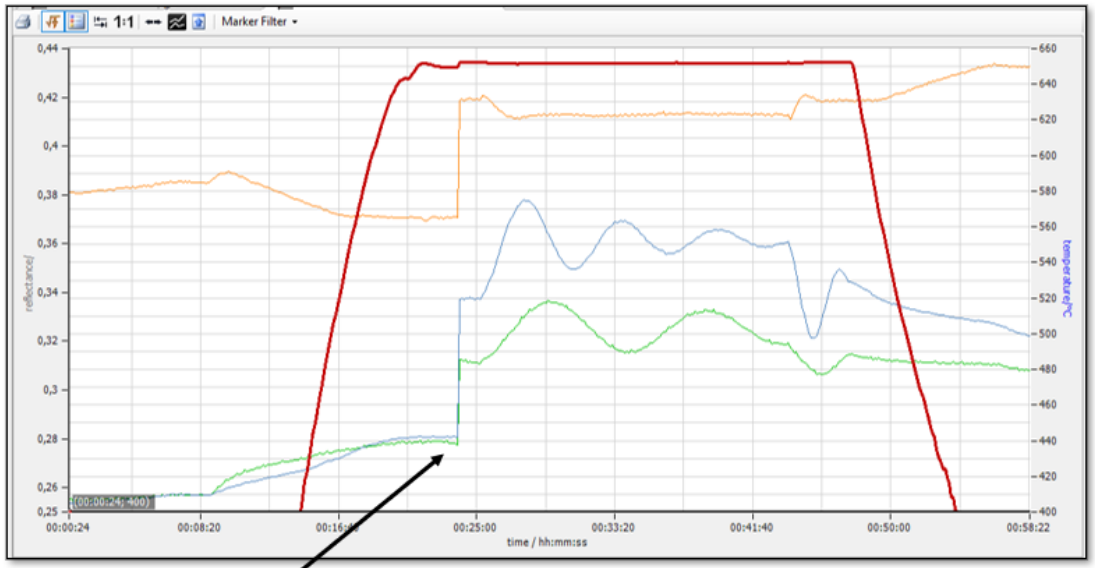
Alpha calibration

<u>When to perform it?</u>

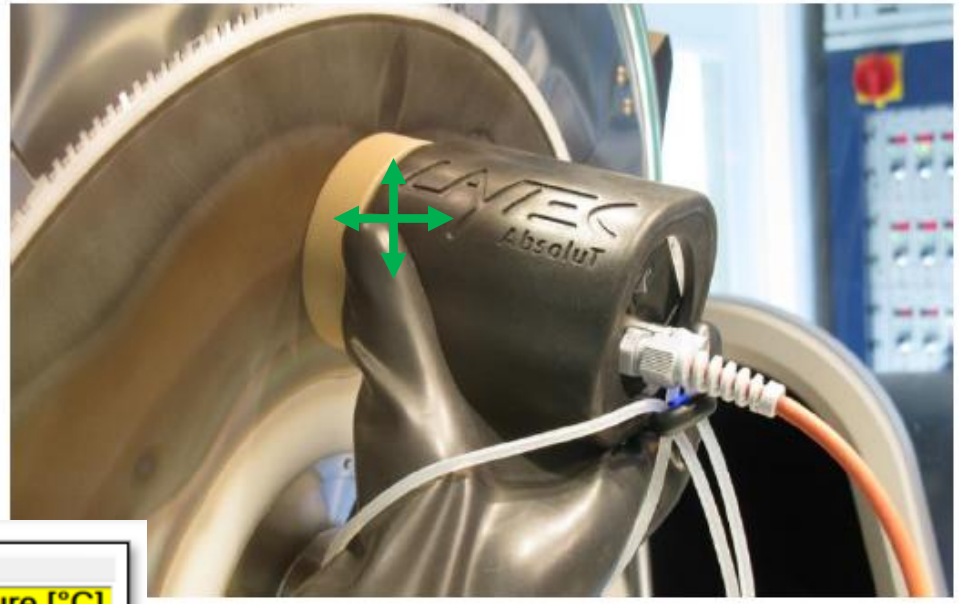
- At the start of every measurement run and ideally at growth temperature

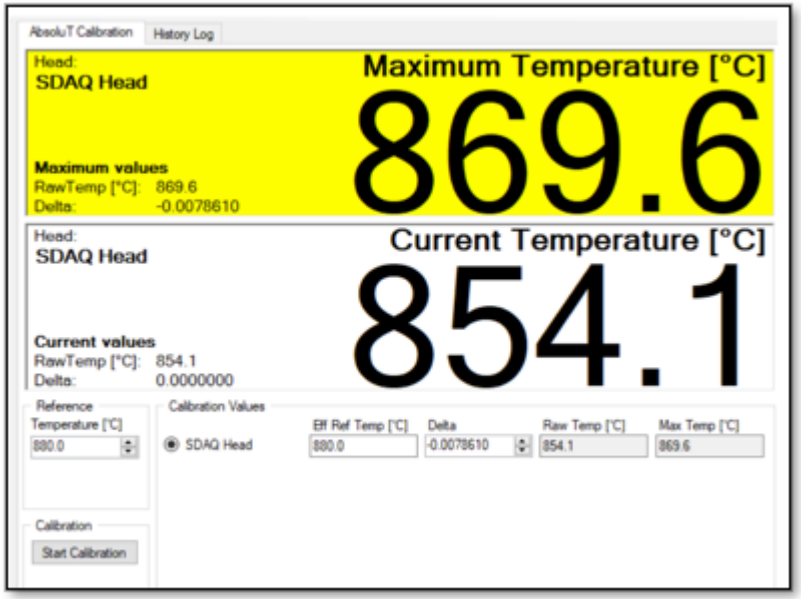
<u>Conditions:</u>

- Perform it at a stable temperature
- Leave it on for 3 minutes



Alpha calibration applied





Move AbsoluT across viewport aperture until you find stable reading.

→ TT is calibrated to viewport condition

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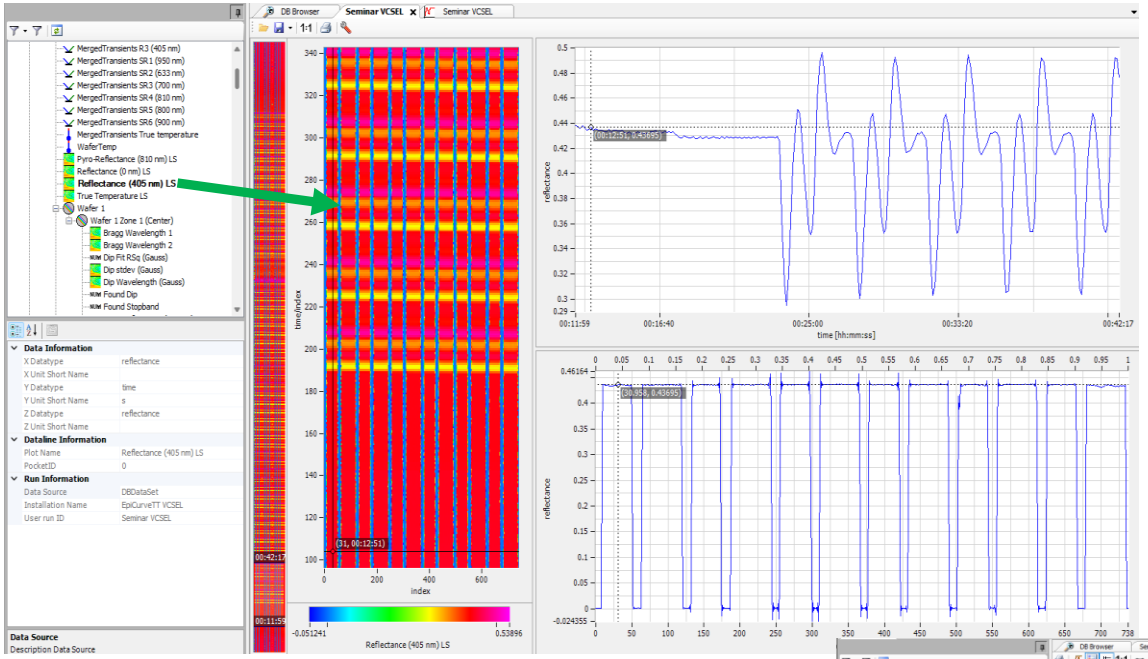
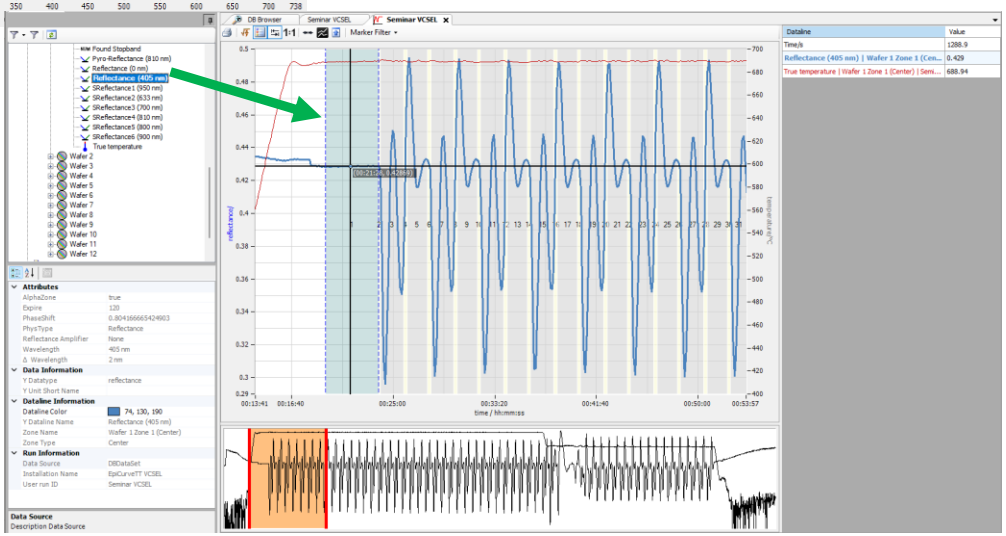
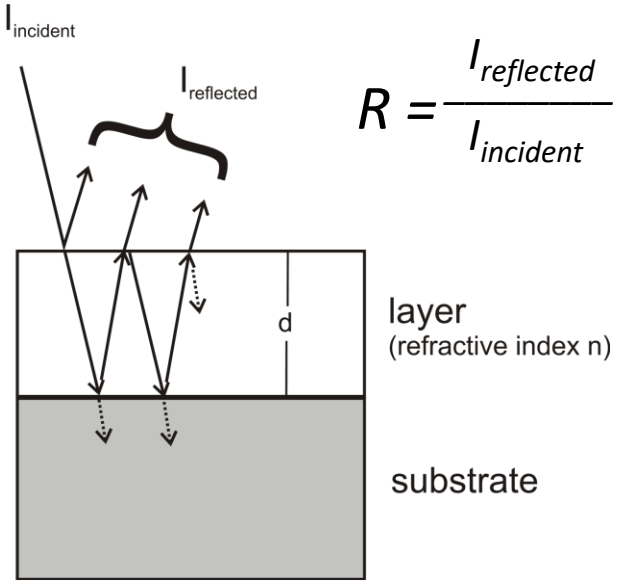


all data-lines are recorded over full susceptor rotation, showing changes within and across wafers

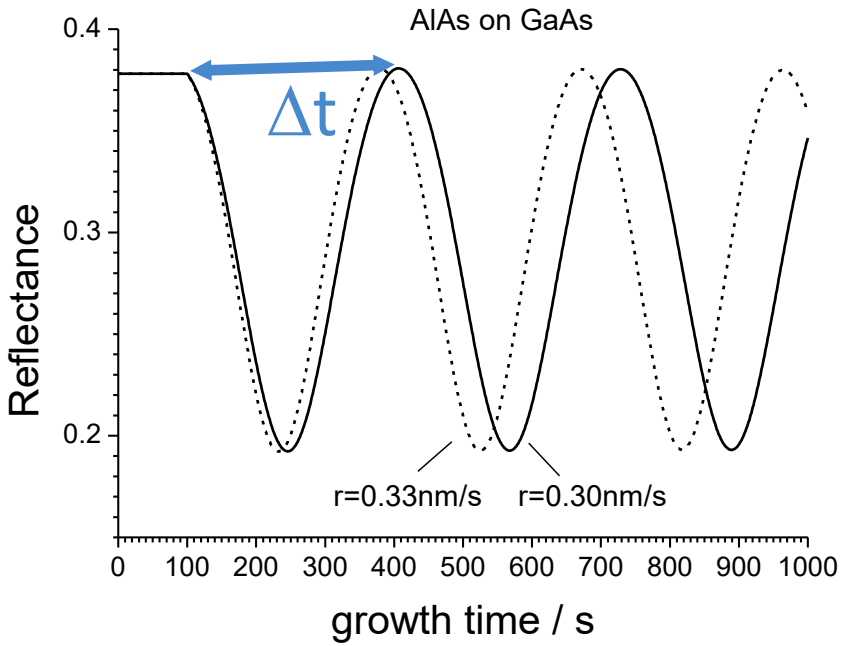
Wafer zone definition gives transient to focus on further analysis



Thin film interference



$$R = \frac{I_{reflected}}{I_{incident}}$$



long oscillation period Δt➔ small growth rate r (and vice versa)

EpiNet growth rate fitting methods is based on optical properties (n,K) at growth temperature → accurate growth rate and layer thickness result

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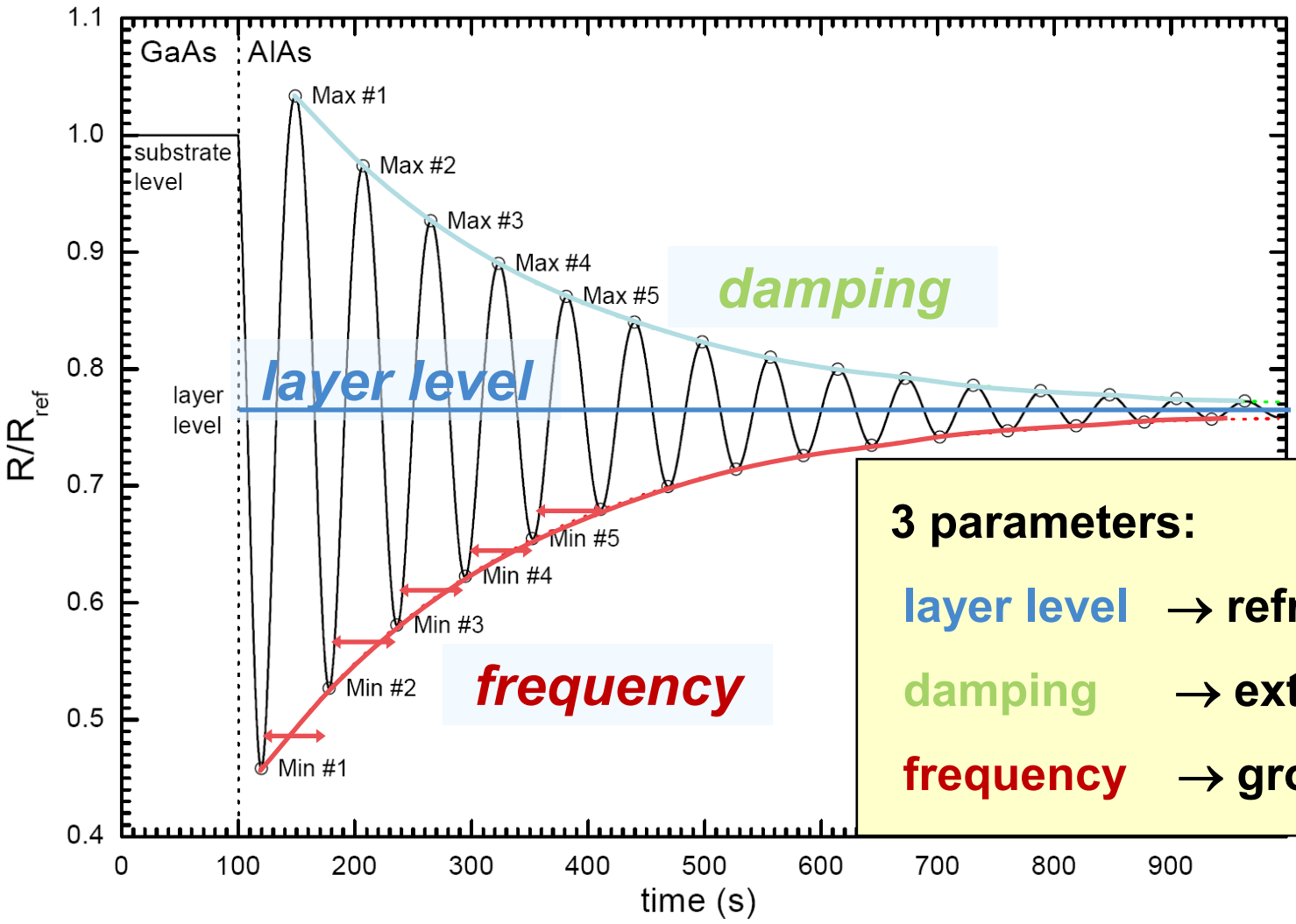
Data analysis – nkr fit



3 parameters:

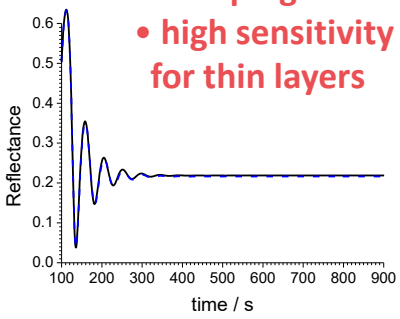
layer level → **refractive index *n***

damping → **ext. coefficient *k***

frequency → **growth rate *r***

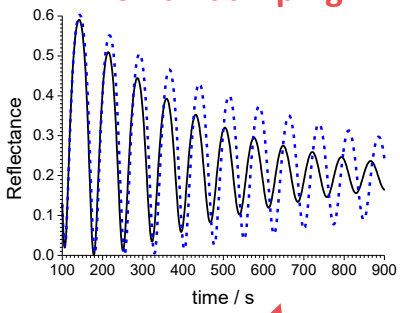
Choice of wavelength

- damping
- high sensitivity for thin layers



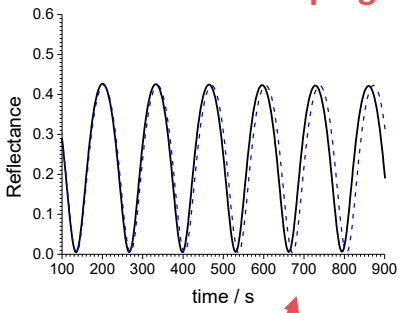
$< \lambda_g$
roughness measurement

- small damping

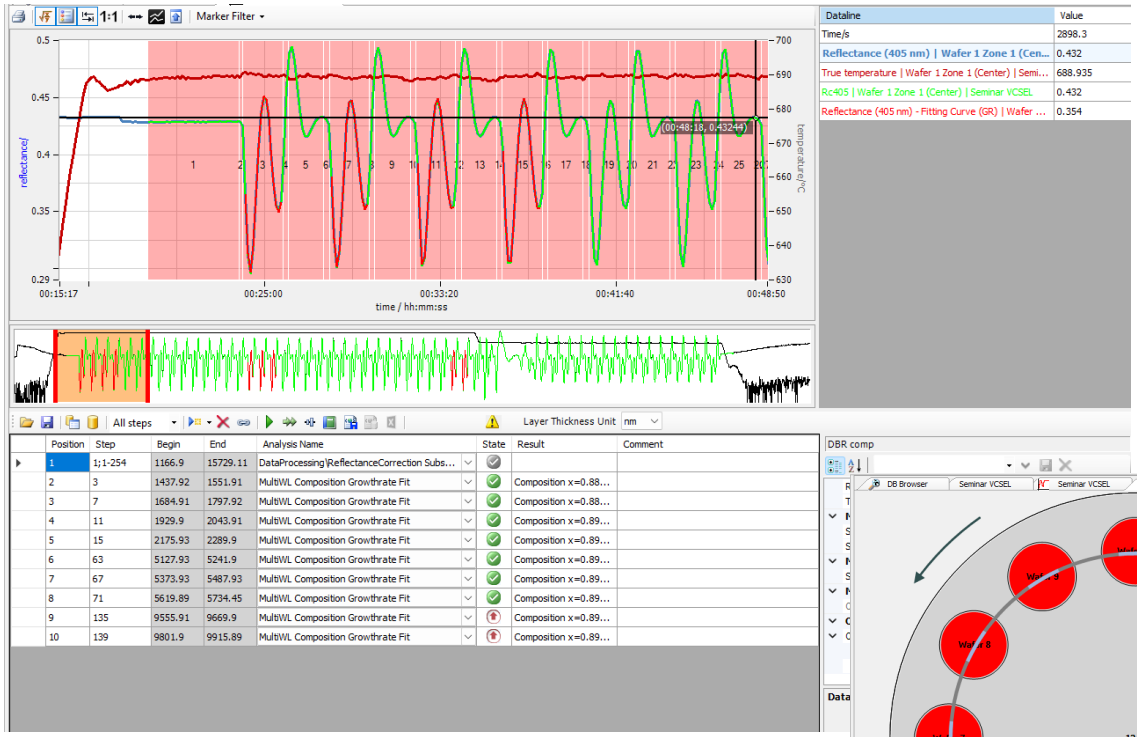


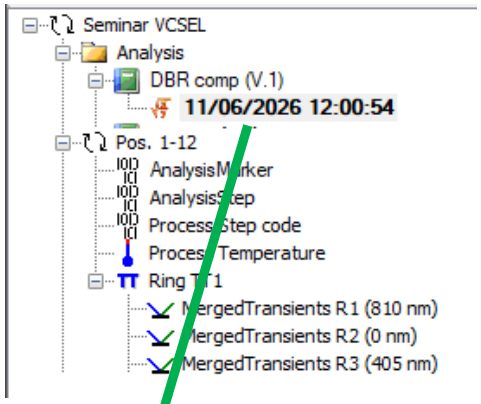
$> \sim \lambda_g$
composition sensitivity

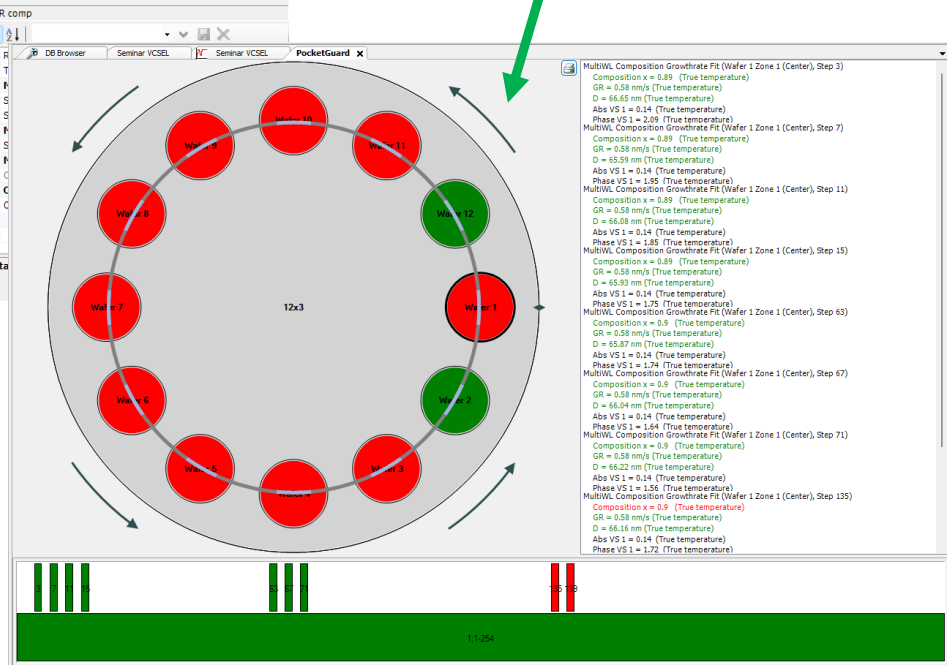
- no damping



$>> \lambda_g$
best for growth rate







Analysis
fully automated via RunType
recipe for each layer
results post step
in-spec evaluation

support@laytec.de

Knowledge is key

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