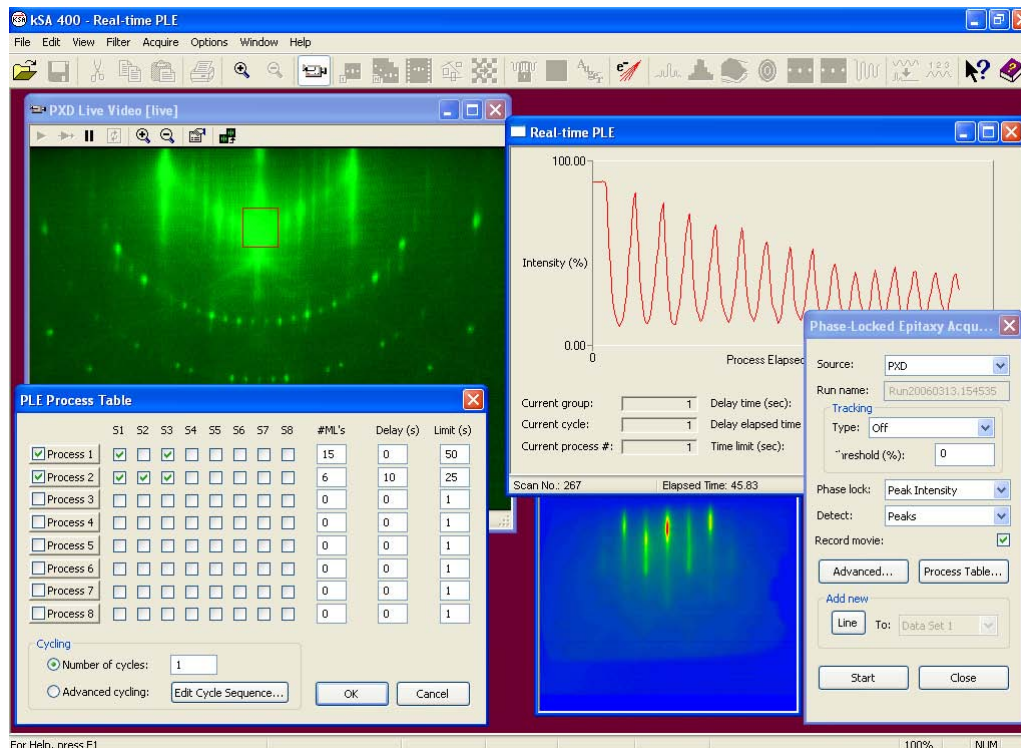


Phase-Locked Epitaxy (PLE)



The kSA 400 PLE plug-in option automatically controls layer-by-layer growth by using real-time monitoring of Reflection High Energy Electron Diffraction (RHEED) oscillations to automate shutter open and close times. This yields atomic-level accuracy and reproducible results for thin films.



The PLE plug-in option combines a highly sophisticated PLE algorithm, programmable Process Table, and digital I/O board, all seamlessly integrated into the kSA 400 environment.

Features

- Highly sophisticated PLE algorithm continuously monitors 1st derivative of real-time intensity data
- Fitting parameters include minimum slope values to eliminate noise and transients
- Peaks, valleys, or both peaks and valleys can be phase-locked
- Timed growth control is available when intensity oscillations are absent
- Programmable process table: up to 8 processes, 1000 cycles, and delay/recovery timing
- Generate complete growth recipes for advanced processes
- 8-channel digital I/O board and cabling enables software-controlled shutters (open/close on voltage high/low)
- PLE data acquisition is saved just like kSA 400's Scan Mode, enabling the full suite of analysis tools

