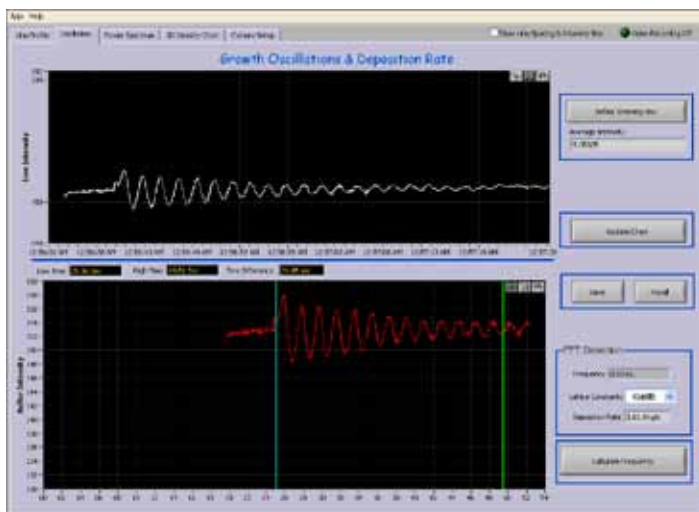


RHEED Image Analysis Software

Engines for Thin Film Innovation



Description

RHEED (Reflection High-Energy Electron Diffraction) is an essential tool for thin film deposition processes. SVT Associates developed a state-of-the-art RHEED Image Analysis Hardware/Software package that gives the user the necessary tools to gain insight into the thin film growth process and optimize material quality. The RHEED software is a multi-purpose program for analyzing RHEED patterns. The powerful software features tracking of RHEED intensity changes and measuring the rate of oscillations for quantitative determination of growth rate. It also has image analysis capabilities such as capturing and profiling.

The software program takes input from a high sensitivity CCD digital camera. All components are outside the thin film deposition system, hence retrofitting this package to existing machines is very simple.

The FFT analysis of RHEED oscillations can accurately determine rates even from very noisy signals. These factors make RHEED Image Analysis an indispensable tool in the day-to-day operation of a MBE system.

Camera Specifications

Sensitivity	QE up to 37%
Lens Focus	From 4 cm to infinity
Frame Resolution	658 w x 492 h
Color Resolution	16 bit
Refresh Rate	Up to 65 times a second
Trigger	Software, Hardware synchronization TTL
Lens Mount	CS-Mount
Electronic Shutter	Microsecond Resolution

Features

- Hi-Sensitivity Progressive Scan CCD Digital Camera
- Graphical User Interface Image and Video Capture
- Intensity Tracking and Profiling
- Real-Time Oscillation Measurement and Growth Rate
- Lattice Constant Measurement/Strain
- Substrate Rotation Triggering and E-Beam Synchronization Capabilities



1/3" CCD Color Hi-Resolution and Hi-Sensitivity Camera with 4.5", 6", or 8" CF Camera Mounting Hardware.



Profile analysis allows the user to get an intensity profile along any line drawn on the video image. It also locks onto and tracks up to eight peaks, gives peak positions or separations and can save that data in a trend file. This feature is used

to measure lattice constant spacing and can be used for strain analysis.

Substrate rotation and electron beam sweep triggering allows precise capturing of RHEED data for further analysis.

Model	Description
RH-IAS	Image Analysis Software
RH-CM-4.5	Camera Mount, 4.5" CFF View-Port
RH-CM-6	Camera Mount, 6" CFF View-Port
RH-CM-8	Camera Mount, 8" CFF View-Port

