

SVTA In-Situ Cathodoluminescence

Real-time Measurement of Film Composition and Optical Quality



Features

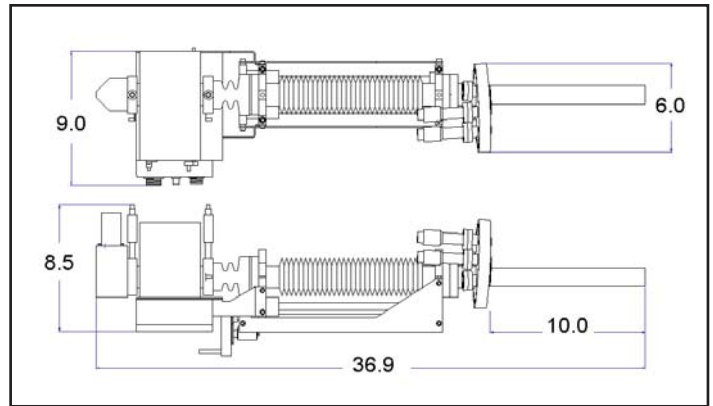
- Measurement of Film Composition and Optical Quality on a Single Viewport
- Information of Doping Levels
- Retractable System for Minimum Interference
- Fully Computer Controlled Acquisition and Analysis

Description

The In-Situ CL system is an ideal solution for monitoring of thin film growth during MBE processes. Mounted in a single viewport SVTA's CL system provides accurate, real-time information on substrate composition and optical quality using a standard RHEED gun (e.g. SVTA RHEED Gun) in combination with a sensitive optical detection system. Retracting the system up to 8 inches ensures minimum interference during growth. The electron excitation technique allows depth profiling by adjusting the electron energy. A windows based software package allows fully automated processing and analysis of the spectra.

Specifications:

Spectral Range.....200 - 900 nm
 Resolution.....0.5nm
 Detector Quantum Efficiency..... 25%
 Detector Output..... 10 V/nW
 Equivalent Noise.....250 μ V
 Viewport.....2.75" CF
 External Dimensions.....9.0" x 25.5" x 10.1" (W x L x H)
 In Vacuum Length..... \varnothing 1.25 x 13.1"
 Travel Distance.....Up to 8"
 Target Distance......2"
 Computer Requirements.....Windows 95, NT 4.0 or higher

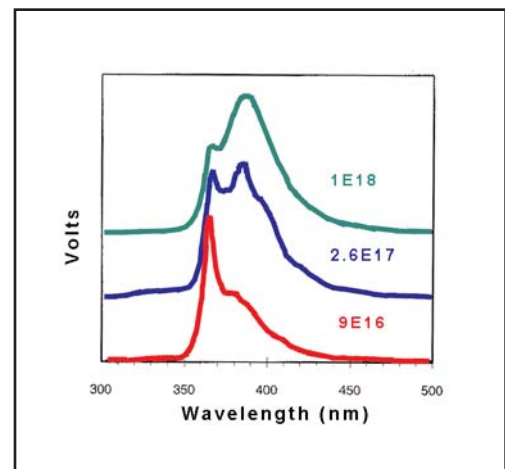


All Dimensions in Inches

Models

Description

| | |
|-----------|--|
| CL-0-2.75 | Base In-Situ CL Instrument |
| CL-0-F | Fiber Based In-Situ CL System for Minimum Optical Access |
| CL-4-6 | In-Situ CL System 6" Mounting Flange Optional Ports for Pyrometer |



In-Situ CL Spectrum from several Mg doped p-type GaN films on sapphire. Measured Hall carrier concentration is given for each curve. (Appl. Note 1101)