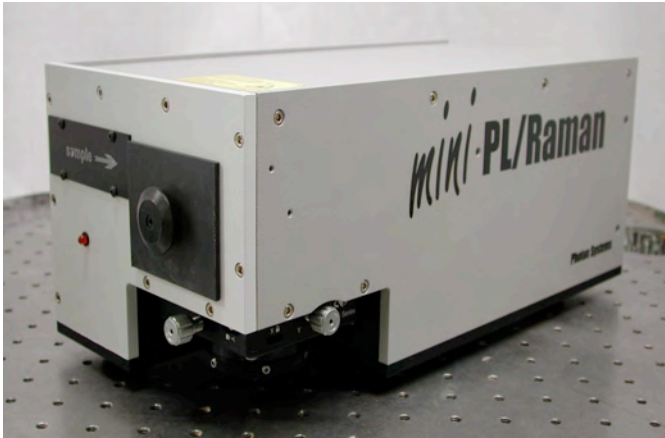


Wide Bandgap MiniPL Spectrometer

Fully integrated with excitation energy up to 5.5 eV



Measurement of photoluminescence (PL) spectra from semiconductor materials is an important characterization method and is widely accepted for providing information on carrier doping levels, alloy composition, bandgap and edge effects, etc. These measurements are important both for research, device characterization and process monitoring.

Photon Systems Deep UV (DUV) **MiniPL Spectrometer** provides the most compact and inexpensive instrument available at these wavelengths. Enabling PL spectra measurement of semiconductor materials with bandgap up to about 5.5 eV corresponding to AlGaN with Al concentrations up over 80%.

Features:

- Room Temperature PL
- 5.5(224nm) or 5.0 eV(248.6nm) laser excitation
- measurement of excitation and emission energy for direct QE measurement
- Highly portable 15 x 18 x 36cm,<8Kg
- High Resolution 0.2nm (multi slits included).
- Computer controlled Grating selection and Calibration
- 1200ln Grating std. (300nm peak)
- 3600ln Grating for High Res PL or Raman optional (250nm peak)
- Digital PMT controller with gated box car Integrator & Averager for low noise digital PMT output measurement
- < 20Watts (90-240VAC) input
- Fully integrated, self contained, system
- LabView interface and control of laser, spectrograph, PMT, spectral data
- Analysis software included, FWHM, Peak, Side lobe identification, spectral subtract, normalize etc.
- Up to 50 mm diameter sample size
- X-Y-Z stage manual sample control 50mm standard
- 50mm X-Y motorized stage including mapping software optional.



LASER 2000

The Future of Photonics

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System Configuration

The Photon Systems DUV Mini-PL system is a completely integrated digital instrument with self-contained deep UV laser, monochromator, detector, optics and electronics.

Laser: 224nm (5.5 eV) or 248nm (5.0 eV) laser with self-contained laser power supply/controller.

Monochromator: 1/8M Czerny-Turner configuration with 2 gratings: 1200g/mm (0.7 nm resolution, and 3600g/mm (0.2 nm resolution optional)

Detector: 190nm to 650nm PMT; 1-10⁶ gain, computer adjustable

Optics: Reflective objective, laser line filter, injection filter

Data acquisition: Digital control of laser, PMT and spectrometer with digital gated boxcar integrator and averager. Fully calibrated to display detected photons versus wavelength, Wavenumber, photon energy.

Software: LabView 8.2

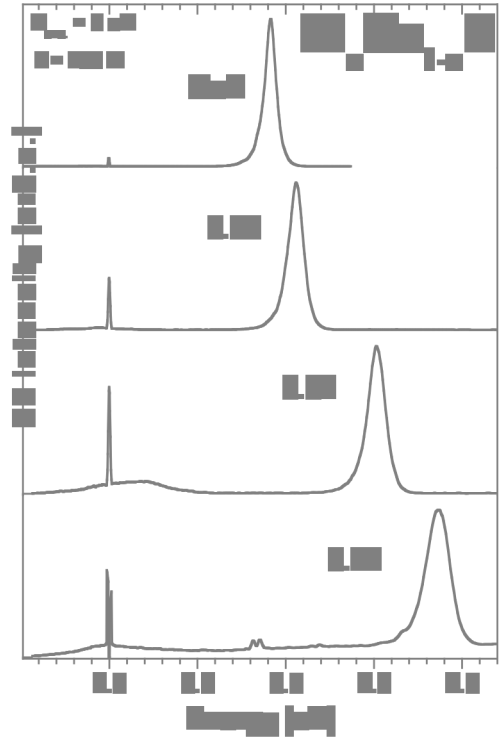


Diagram of System

