

Low Temperature Macro Photoluminescence and PLE System

ELEMENTAL ANALYSIS
FLUORESCENCE
GRATINGS & OEM SPECTROMETERS
OPTICAL COMPONENTS
FORENSICS
PARTICLE CHARACTERIZATION
R A M A N
SPECTROSCOPIC ELLIPSOMETRY
SPR IMAGING



Fig. 1. FluoroLog-3@ system incorporating a closed cycle helium cryostat

- Modularity and versatility
- Many configurations available
- Fully automated devices
- Multichannel detection
- Controlled by DataMax™

The Jobin Yvon FluoroLog-3@ system makes an ideal turnkey macro PL / PLE system. The large format sample chamber allows the easy installation of a standard helium cryostat for low temperature studies.

The system is controlled by the Jobin Yvon DataMax™ software, which can perform excitation, emission, time base and synchronous scans in both eV and nm units.

Instrument's Configuration

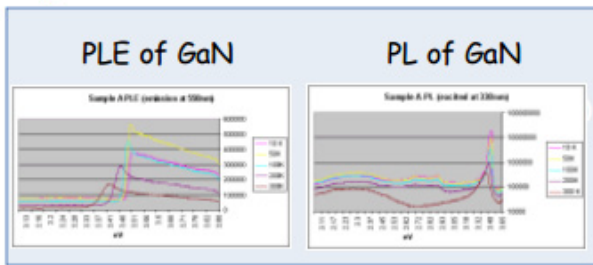
Excitation is from a powerful 450 W xenon lamp coupled to a double grating fast scanning monochromator. The double grating arrangement greatly reduces stray light and as the gratings are kinematically mounted they can easily be changed by the user to maximize efficiency at the desired wavelength.

The sample chamber optics, like the rest of the FluoroLog-3®, consist only of mirrors which unlike lenses will maintain their efficiency and focus throughout a wide wavelength range.

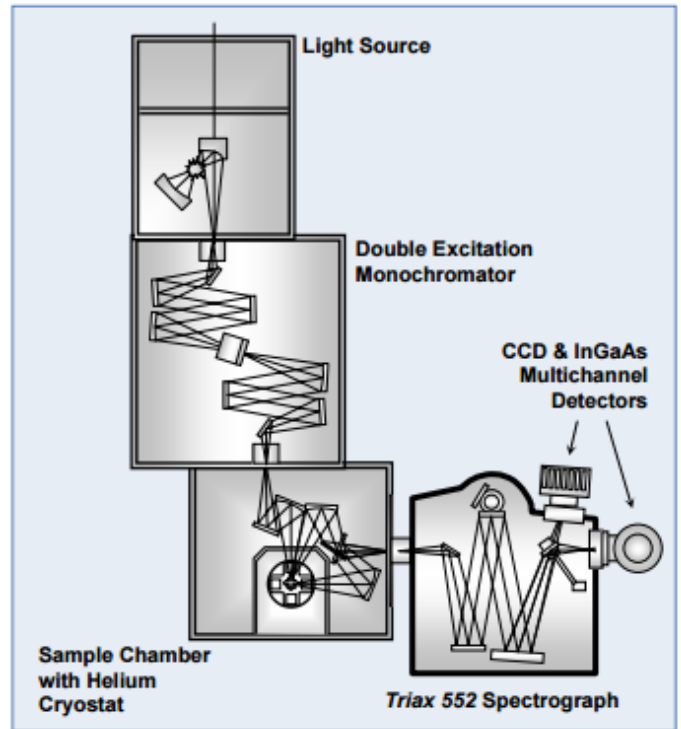
The emission goes through a Triax 552 0.5 m spectrograph, which offers high resolution and can accommodate a variety of different detectors such as, photon counting PMT, CCD, ICCD, Ge diode and InGaAs arrays. The Triax 552 is unique in that two array detectors (CCD and InGaAs) can be accommodated simultaneously.

Results

PL and PLE spectra of a GaN sample at various temperatures.



Sample courtesy of University of Limerick



Specifications

- Source – 450 W xenon lamp
- Excitation range – 230 nm to 1000 nm
- Emission range - 230 nm to 3000 nm



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