

## PHO-SES 200 VUV/IV/VIS Spectral Evaluation System



The Resonance Phosphor Evaluation System uses a computer-controlled tunable vacuum ultraviolet light source with design optimized for test of phosphor emission and luminescence. It delivers vacuum ultraviolet (VUV) excitation wavelengths to samples on a target holder and measures their spectral phosphorescence with a fiber optic coupled CCD spectrometer. This is an excellent system for quality control, fundamental research and development of VUV and UV excited emitting materials.

### Features

- 120 to 400 Nm Tunable Light Source with 0.15 to 10 Nm Spectral Bandwidth
- Reference VUV Solar Blind Pmt for Tunable Light Source for Absolute VUV/UV Flux onto Sample and Transmission of Sample
- 10 Sample Positions on Standard Wheel
- Modular Design Allows Change of Emission Sources and Detection Optics
- Compact Footprint less than 1 Sq. Meter
- Turn-Key Oil Free Pumping System
- Emission Spectrometer Uses High Sensitivity UV/Vis/Nir Pmt For a Wide Spectral Range from 200 To 900 Nm.
- VUV Solar Blind Pmt Transmission Detector
- Order Sorter with 2 Long Pass Filters
- Labview Based Software with USB Interface

Light Source Specifications					
Specification		Minimum	Typical	Maximum	Units
Lamp		Deuterium			
Stability:	Long Term	-	1	-	% per hour
	Short Term	-	0.1	-	% per sec
Spectral Output		120	-	400	NM
VUV Intensity			$2 \times 10^{15}$	$5 \times 10^{15}$	Photons/sec/sr
UV Intensity			$3 \times 10^{14}$	$5 \times 10^{14}$	Photons/sec/sr
Certification		NIST Traceable Calibration of Irradiance in Vacuum			
Full Angle Output Cone		30	45	65	Degrees
Input Power		18	25	30	Watts
Input Voltage		70	115	260	VAC
Input Line Frequency		50	60	65	Hz
Mounting Flange		2 3/4 inch Conflat is standard			
Pulse		Modulation to 1 kHz			

Tunable Monochromator Specifications					
Specification		Minimum	Typical	Maximum	Units
Slits Adjustable to		10	-	4000	$\mu\text{m}$
Focal Length		-	200	-	mm
Standard Grating		-	1200	-	g/mm
Grating Size		-	42 x 42	-	mm
Resolution		-	0.1	-	nm
Dispersion		-	3.45	-	nm/mm
Efficiency (@ 150nm)		-	> 50	-	%
Wavelength Repeatability		-	0.2	-	nm
Stray light			$< 2 \times 10^{-4}$		
Vacuum			$< 1 \times 10^{-6}$		torr

Sample Analysis System Specifications					
Specification		Minimum	Typical	Maximum	Units
No. of Samples		-	10	20	
Visible Spectrometer Resolution		-	1	-	nm
Range		200	-	900	nm
F No.		-	3	-	
Vacuum		-	$< 1 \times 10^{-6}$	-	torr
Pumping Speed (to $10^{-5}$ torr)			< 15		mins



