

High Resolution Spectrometer – Aurora4000

Features:

- UP to 0.1nm (FWHM) resolution
- Customized wavelength range
- Easy-to-use

Applications:

- Laser spectral analysis
- Fluorescence spectral analysis
- Raman spectral analysis
- Film thickness measurement
- Reflectivity/transmittance measurement
- Biological cell analysis
- LED analysis



Model	Spectral range
Aurora4000 GE 200-1100	200-1100nm
Aurora4000 GE 350-1100	350-1100nm
Auro-UV-Pro	185-240nm
Auro-IR-Pro	950-1200nm
Aurora4000 TG 350-1100*	350-1100nm
Aurora4000 TG 200-1100*	200-1100nm

* External triggering series requiring trigger box EX-TA/TB

Wavelength range (nm)	Slit width (μm)				
	10	25	50	100	200
	Optical resolution (nm)				
200 – 1100	0.75	1.09	1.83	3.45	6.61
350 – 1100	0.75	1.09	1.83	3.45	6.61
300 – 515	0.15	0.26	0.44	0.83	1.58
400 – 837	0.44	0.53	0.89	1.68	3.21
785 – 1100	0.35	0.38	0.64	1.21	2.31

Detector	
Detector	Toshiba TCD1304DG linear CCD array
Wavelength range	200-1100nm
Pixels	3648 pixels
Pixel size	8um*200um
Sensitivity	130 photons/count at 400nm, 60 photons/count at 600nm
Spectrometer	
Dimensions (mm)	149*105*46
Weight (g)	840
Optical resolution	<0.75nm FWHM (slit dependent)
Signal-to-noise ratio	300:1 (at full signal)
Dark noise	12RMS counts
Dynamic range	$3.4 \cdot 10^6$ (system)
Integration time	4ms-10s
Stray light	<0.05%@600nm; <0.10%@435nm
Corrected linearity	>99.8%
Optical Bench	
Design	f/4, Symmetrical crossed Czerny-Turner
Focal length	101.6mm input and output
Entrance aperture (um)	10,25,50,100 or 200
Grating	A variety of different grating, ultraviolet and infrared
Fiber optic connector	SMA905, NA=0.22
Electronics	
Power consumption	450mA@5VDC
Trigger mode	2 modes
Data transfer speed	Full scans into memory every 4 milliseconds with USB 2.0; every 18 milliseconds with USB 1.1
Connector	30-pin