Спектрометры переходного поглощения LP980

Технические характеристики

По вопросам продаж и поддержки обращайтесь:

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The LP980 Series

Transient Absorption Spectrometer

A first of its kind on the market, the LP980 allows for the measurement of transient absorption, and both laser-induced fluorescence and phosphorescence.

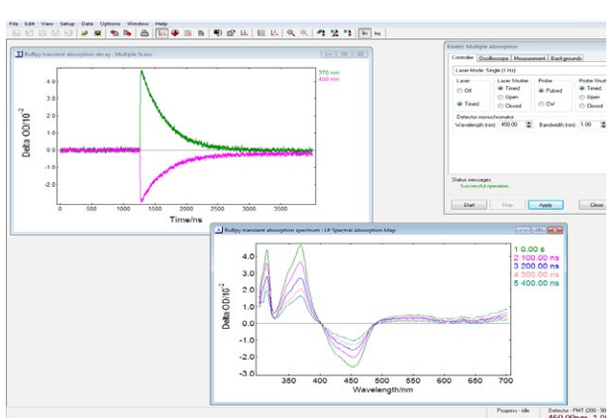
The LP980 sets the standard for technical performance required in a premier research instrument, offering unsurpassed measurement capabilties across a broad range of chemical, physical and biological applications.

Measurements

- Transient Absorption
- Laser-Induced Fluorescence (LIF) and Phosphorescecene
- Time-Gated Spectra (ns, µs, ms time ranges)
- Triplet-Triplet Annihilation
- Reaction Rate Studies

Features:

- Dual sample chamber - measure transient chemical and biological species up to 2.55 µm using the pump-probe technique AND fluorescence and phosphorescence lifetimes down to nanosecond time ranges
- Detection limit in flash photolysis single shot sensitivity of ΔOD 0.002 (kinetic; PMT) and ΔOD 0.0005 (spectral; ICCD)
- 325 mm monochromators - integrated 2nd order removal filters on automated filter wheel
- 150 W Xenon lamp, 100 A pulsing - high intensity, high SNR, providing better stability for longer transients
- Internal laser beam adjustment - preventing external beam steering
- One comprehensive software package for complete computer control of all components and measurements



RuBpy Kinetic Scans and Spectral Time Absorption Maps

Technical Specifications

LP980 - Base Configuration

The LP980 is a transient absorption spectrometer using the pump-probe technique for measuring transient kinetics (Kinetic Mode) and/or time-gated transient spectra (Spectral Mode), generated by laser excitation.

Transverse sample excitation geometry comes as standard. Thin-film, diffuse reflection, fluorescence and phosphorescence lifetime measurement, accessories are available as options.

Monochromator / Spectrograph	
Type	Czerny-Turner with triple grating turret
Focal length	325 mm
Mirror	Automatic, computer-controlled for detector selection
Slits	5 µm to 10 mm (continuously adjustable), motorised

Laser Excitation Source*	
Single wavelength	Flashlamp pumped Q-switched Nd:Yag laser operating at 1064 nm, 532 nm, 355 nm, or 266 nm
Tuneable	OPO, tuneable in range 410 nm – 710 nm (signal). Idler and UV doubler options possible
	* We can supply a fully integrated laser, please contact us for more information

LP980-K (Kinetic Mode)

For lifetime transient decay measurements at a single wavelength

Grating	Plane ruled grating 1800 grooves/mm, 500 nm blaze as standard
Dispersion	1.66 nm/mm
Spectral Range	200 nm – 870 nm
Spectral Resolution	0.1 nm
Sensitivity	ΔOD 0.002 (single shot - fast detector option, PMT), ΔOD 0.0005 (single shot - slow detector option, ICCD)
Detector Type	Photomultiplier with 5 stage dynode chain for high current linearity
Detector Impedance	50 Ω (amplified – fast detector, <3 ns rise time), 1 kΩ (slow detector, <100 µs rise time)

LP980-KS (Kinetic & Spectral Mode)

For lifetime transient decay measurements AND spectral measurements of the decay process

Gratings	Kinetic Mode grating plus an additional plane ruled grating: 150 grooves/mm, 500 nm blaze supplied
Dispersion	19.9 nm/mm
Spectral Coverage	520 nm (active horizontal ICCD dimension: 25 mm)
Spectral Resolution	0.52 nm (spectral coverage / 960 pixels)
Sensitivity	ΔOD 0.0005 (single shot)
Detectors	Kinetic Mode PMT plus an additional image intensified CCD camera (ICCD) supplied
Min. Optical Gate width	7 ns (FWHM)
Active Pixels	960 x 256
Active Area	25 mm x 6.7 mm
Cooling	-20°C as standard (-30°C with additional water circulation)

LP980 Upgrade Options

Grating Options	A variety of gratings are available with 150-2400 grooves/mm, optimised from UV through to NIR
Sample Holder Options	Cross-beam geometry, diffuse reflectance, thin-film, LIF
Detector Options	PMT-980 (200nm - 980 nm), InGaAs Detectors (900 nm – 2550 nm), NIR-PMT (up to 1650 nm)

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