

The Lambda 950, a new high performance UV/Vis/NIR spectrometer in the CLF

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The Lasers for Science Facility has recently purchased a high precision Lambda 950, double beam, double monochromator, ratio recording UV/Vis/NIR spectrometer. This instrument possesses one of the largest sample compartments currently available, capable of accommodating a wide variety of sample sizes and has a wavelength range of 185 nm to 3300 nm, which can be extended down to 175 nm with a dry nitrogen purge.

This recent acquisition has the option to increase its capabilities in the future with the purchase of accessories such as integrating spheres up to 150mm, which can be placed in an additional sample compartment.

The high sensitivity of this equipment means that it can be used for many applications such as reflectivity and transmission measurements of optical substrates and coatings and analytical studies in the chemical and life sciences.

Technical details	Lambda 950
Wavelength range (Dry nitrogen purge necessary below 185 nm)	175 nm - 3300 nm
Wavelength accuracy	± 0.08 nm UV/Vis ± 0.30 nm NIR
Resolution	≤ 0.05 nm UV/Vis ≤ 0.20 nm NIR
Detector	Photomultiplier R6872 for high energy in the whole UV/Vis wavelength range. Peltier cooled PbS detector for NIR.
Source	Tungsten-halogen and deuterium lamps
Photometric noise RMS	
198 nm	≤ 0.00010 A
500 nm	≤ 0.00005 A
1500 nm	≤ 0.00004 A
(2 nm slit, 1 second integration time, gain 1 NIR) ≤	Typically ≤ 0.165

Table 1. Instrument specifications

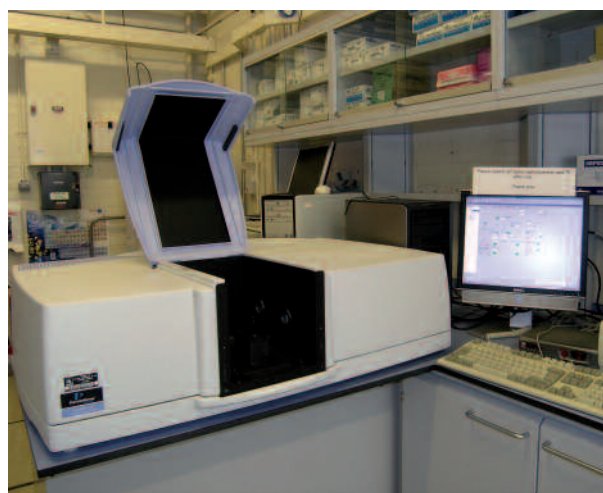


Figure 1. The Lambda 950.

This instrument will enable accurate absorption measurements in the near-infrared, 1300 - 1900 nm, of aqueous samples essential for proposed developments of temperature-jump time-resolved infrared spectroscopy.

The Lambda 950 is a welcome addition to the preparation facilities within the LSF and is available to the CLF and its users.

Figure 1 shows the Lambda 950, Figure 2 shows the instrument set-up parameters, Table 1 gives the equipment specifications.

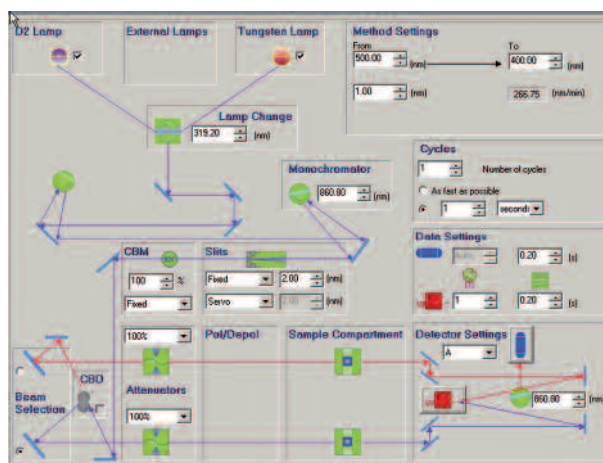


Figure 2. The Instrument parameters.