

**Department of Optoelectronics, University of Kerala, Kariavattom,
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OPTO/Nanophotonics-Phase II/P-2/2014-15

Quotation Notice

Quotations are invited for the following items for the research purpose in the Department of Optoelectronics, University of Kerala, Kariavattom, Thiruvananthapuram.

Spectrofluorometer with Accessories

A. Spectrofluorometer for steady state fluorescence measurements on various solid samples

Specification

1. Wavelength range: Minimum 250nm or lower and maximum 850 nm or higher
2. Light source: 450 W, Ozone free, Xenon lamp with computer controlled excitation shutters and power supply
3. Excitation Monochromator
 - Double Czerny-Turner excitation spectrometer with 1200 grooves/mm or better gratings
 - Blazed at any wavelength between 300nm-350 nm Wavelength range: 220nm - 850 nm, Optimized in UV Automated, continuously adjustable wavelength ranges
 - Band pass: 0.2nm -15nm or better, continuously adjustable from computer
 - Step size: 0.1nm -15nm or better
4. Emission Monochromator
 - Single Czerny-Turner excitation spectrometer with 1200 grooves/mm or better gratings
 - Blazed at any wavelength between 400nm-500 nm
 - Wavelength range: 220nm - 850 nm, Optimized in visible
 - Automated, continuously adjustable wavelength ranges
 - Band pass: 0.2nm -15nm or better, continuously adjustable from computer
 - Step size: 0.1nm -15nm or better
5. Wavelength Accuracy: $\pm 0.5\text{nm}$ or better

6. Emission Detector: R928PMT or better photomultiplier tube detector, wavelength range 220nm - 850 nm operating in photon counting electronics mode
7. Signal to Noise Ratio: 8000:1 or better measured using water Raman signal at excitation at 350nm, emission at 397nm, Bandpass 5nm and 1sec integration time
8. Scan speed: Variable scan speed adjustable from computer. Maximum scan speed not less than 100 nm/s
9. Sample Compartment: Large sample chamber with focusing optics and standard solid sample holder designed for viewing front-face fluorescence of thin films/powders/pellets/ coated papers/microscopic slides/liquids etc.
10. Control and Analysis Software: Comprehensive software compatible with Windows 7 or higher OS environment for instrument control, data acquisition and data analysis through PCI/USB ports and auto calibration facility on start-up.
11. Integrating Sphere: For measurement of fluorescence quantum yields of various samples (solids/liquids, thin films etc.). All necessary coupling optics/sample holders and required accessories including software need to be included.
12. Desk top computer with latest specification: Windows 7 operating system or higher
Software for data collection, analysis and system control should be supplied
13. Standard power supply should be included with the instrument
14. The instrument should be upgradable in future for measuring fluorescence from liquid samples, fluorescence lifetime measurements and NIR fluorescence measurements and excitation using user's LED/LASER source.

B. Transient measurements

Fluorescence lifetime measurement facility with excitation LED sources for 250, 266, 390 and 455nm complete with timing electronics and software, lifetime range ns.

Optional Accessories

- Polarizers for anisotropy measurement
- Filters with holder operating at various cut-on wavelengths in the visible range

Essential Requirements

- Minimum two existing installations of spectrofluorometer and documentary evidence demonstrating satisfactory performance of the equipment needs to be enclosed.

- The latest technical datasheet for the quoted model must be attached and the same should be available on the website.
- Declaration from OEM that they will support the model for a period of five years by spares & service from the date of installation.
- Clear documentary evidence and compliance sheet for all the quoted technical specifications needs to be enclosed with the quote
- Also quote for additional item which are essential and are not included in the specification
- Anti- florescent cuvettes suitable for the instruments

Warranty Information

Three year warranty preferred

General Conditions:-

1. Sealed quotations should be sent to the **Professor & Head, Department of Optoelectronics, University of Kerala, Kariavattom-695581, Trivandrum, Kerala.**
2. The price quoted should be inclusive of all taxes, duties, delivery, commissioning and other charges
3. Detailed brochures/information sheets of the products must be furnished.
4. The offers should be valid at least 90 days from the date of opening of the tender.
5. Delivery and installation should be made at the Department of Optoelectronics, University of Kerala, Kariavattom campus, Trivandrum without extra cost
6. The UPS of necessary power should be provided to support the system.
7. Vendors should provide a compliance statement showing the items quoted with the tender specifications.
8. Vendors should provide a list of institutes showing installations of such instruments in India with contact numbers.

The firms who wish to supply the items are requested to submit the quotations in sealed cover to the undersigned on or before 07.08.2015.

14.07.2015



Professor & Head

PROFESSOR & HEAD
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