DEPARTMENT OF PHYSICS
NATIONAL INSTITUTE OF TECHNOLOGY: TIRUCHIRAPPALLI - 620 015

30.12.2013

Minutes of the pre-bid conference

Tender Notification No.: NITT/F.NO:SIF014/PLAN2013-14 dt: 19.12.2013

With reference to the above tender notification and the pre-bid conference held on 30.12.2013 at 3.30 PM in the committee room of Physics department, the following amendments are made.

Specification for Time resolved fluorescence spectrometer

Original tender specification	Amended specification
Time resolved fluorescence spectrometer with Time Correlated Single Photon Counting (TCSPC) detection technique. The system should come with Sample Compartment, Emission Polarizer, Emission Monochromator, Detector, Data Acquisition System, and Software for data analysis and Excitation Sources. The system should capable of measuring fluorescence lifetime down to 60 picoseconds or less with lasers as excitation sources and fluorescence lifetime down to 100 picoseconds or less with LEDs (Light emitting diodes) as excitation sources. 1. System description: The system should be Time correlated Single Photon Counting based, Compact, and Modular. 2. Light source should be Pulsed LED and Laser diodes with synchronization features. Pulsed LED Source Wavelength - Pulsewidth (OPTIONS) 260nm (±3nm) ~1ns 280nm (±3nm) ~1ns 330nm (±3nm) ~1ns 375nm (±3nm) ~1ns 405nm (±3nm) ~1ns 450nm (±3nm) ~1ns	Time resolved fluorescence spectrometer with Time Correlated Single Photon Counting (TCSPC) detection technique. The system should come with Sample Compartment, Emission Polarizer, Emission Monochromator, Detector, Data Acquisition System, and Software for data analysis and Excitation Sources. The system should capable of measuring fluorescence lifetime down to 60 picoseconds or less with lasers as excitation sources and fluorescence lifetime down to 100 picoseconds or less with LEDs (Light emitting diodes) as excitation sources. 1. System description: The system should be Time correlated Single Photon Counting based, Compact, and Modular. 2. Light source should be Pulsed LED and Laser diodes with synchronization features. Pulsed LED Source Wavelength - Pulsewidth (OPTIONS) 260nm (±3nm) ~1ns 280nm (±3nm) ~1ns 330nm (±3nm) ~1ns 375nm (±5nm) ~1ns 405nm (±3nm) ~1ns 450nm (±3nm) ~1ns

Pulsed Laser Source (OPTIONS) Wavelength Pulse width 377 nm (±3nm) 40 ps to 200ps 405 nm (±3nm) 40 ps to 200ps 425 nm (±3nm) 40 ps to 200ps 440 nm (±3nm) 40 ps to 200ps 470 nm (±3nm) 40 ps to 200ps 490 nm (±3nm) 40 ps to 200ps 510 nm (±3nm) 40 ps to 200ps 635 nm (±3nm) 40 ps to 200ps 650 nm (±3nm) 40 ps to 200ps 730 nm (±3nm) 40 ps to 200ps 3. Monochromator :Emission monochromator of 100mm or better focal length and stray light rejection >1x10-5 should be provided. Slit width adjustable. 4. Fluorescence Lifetimes range: from < 100 ps to 50 ms. 5. Sample Holder: 1x1 cm quartz cuvettes (4 nos) for liquid sample and solid sample holder 6. Sample chamber Featuring temperature controllable single cuvette holder should be provided. Front face sample holder should be quoted. 7. Detection Range: From 250 nm to 850 nm with TE Cooled PMT with low noise level. 8. Anisotropy Measurements: Motorized Polarizer's for the above said wavelengths. 9. Computer: Dedicated computer with latest specifications should be provided.	Pulsed Laser Source (OPTIONS) Wavelength Pulse width 377 nm (±3nm) 40 ps to 200ps 405 nm (±3nm) 40 ps to 200ps 425 nm (±3nm) 40 ps to 200ps 440 nm (±3nm) 40 ps to 200ps 470 nm (±3nm) 40 ps to 200ps 490 nm (±3nm) 40 ps to 200ps 510 nm (±3nm) 40 ps to 200ps 635 nm (±3nm) 40 ps to 200ps 650 nm (±3nm) 40 ps to 200ps 730 nm (±3nm) 40 ps to 200ps 3. Monochromator :Emission monochromator of 100mm or better focal length and stray light rejection >1x10-5 should be provided. Slit width adjustable. 4. Fluorescence Lifetimes range: from < 100 ps to 50 ms. 5. Sample Holder: 1x1 cm quartz cuvettes (4 nos) for liquid sample and solid sample holder 6. Sample chamber Featuring temperature controllable single cuvette holder should be provided. Front face sample holder should be quoted. 7. Detection Range: From 250 nm to 850 nm with TE Cooled PMT with low noise level. 8. Anisotropy Measurements: Motorized Polarizer's for the above said wavelengths. 9. Computer: Dedicated computer with latest specifications should be provided. (Minium requirements :Intel Core i7 Processor 3470, 3.2 GHz upto 3.6 GHz, 6M, vPro, 3rd Generation processor, 4 Core, Intel Q77 Express Chipset based motherboard or better chipset, 8 GB DDR3 SDRAM Non-ECC (1600 MHz) Dual Channel, Single 500 GB 7200 rpm,32MB buffer, SATA 3.0, 6 Gb/s. Specify the make & Size of the HDD, USB Keyboard (Windows Keyboard with US key layout), USB 2-button optical mouse with scroll and Mouse Pad, Integrated 10/100/1000 -Tx NIC with PXE BOOT ROM support, Should support min True color (16.7 million

10. Software: Windows based Software for spectrometer control, performance monitoring, fluorescence lifetime data acquisition, anisotropy with G-Factor correction, temperature control and data analysis particularly 1 to 4 exponential decay, .global, non exponential, micelle kinetics, life time distribution, FRET calculator. 11. The Instrument Electronics should have the Timing jitter < 10 ps or better and Less susceptible to PC originated noise with 8K histogram (greater dynamic range). 12. Sample Compartment: Bigger sample compartment for attaching LN Cryostat and suitable for both Liquid and solid samples 13. OPTIONAL :Cryostat : Suitable Liquid Nitrogen cryostat with connecting accessories. 14. UPS: On-line 10KVA UPS with 30 min to 60 min back up with sin output 15. On site installation and training to NIT – faculty. 16. Users Manual	colors) at 1920 x 1200, 24-bit, Without OS (windows xp/7/8)) 10. Software: Windows based Software for spectrometer control, performance monitoring, fluorescence lifetime data acquisition, anisotropy with G-Factor correction, temperature control and data analysis particularly 1 to 4 exponential decay, global, non exponential, micelle kinetics, life time distribution, FRET calculator. 11. The Instrument Electronics should have the Timing jitter < 25 ps or better and Less susceptible to PC originated noise with 8K histogram (greater dynamic range). 12. Sample Compartment: Bigger sample compartment for attaching LN Cryostat and suitable for both Liquid and solid samples 13. OPTIONAL :Cryostat : Suitable Liquid Nitrogen cryostat with connecting accessories. 14. UPS: On-line 10KVA UPS with 30 min ~~to 60 min~~ back up with sin output 15. On site installation and training to NIT – faculty. 16. Users Manual

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