



IISER Mohali

भारतीय विज्ञान शिक्षा एवं अनुसंधान संस्थान मोहाली

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IISERM (659)16/17 Pur/Corrigendum

06th June 2016

Corrigendum

In continuation of our open tender for the supply and installation of combined steady-state and pico-second time resolved fluorimeter (using TCSPC technique) vide Ref. No. IISERM (659)16/17 Pur dated 27th April 2016, the due date for the submission of tender is now extended up to 20th June 2016 up to 1pm with some modified/revised specifications. The tender will be opened on the same day at 4pm.

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Assistant Registrar (S&P)

Revised tender specifications for combined steady-state and pico-second time-resolved fluorimeter (using TCSPC technique):

Excitation:

1) Picosecond laser diodes (LDs) with ~ 100 ps or better temporal width (FWHM), any rep rate from 10MHz up to 80MHz, easy switching between LDs, continuous and computer controlled power.

Computer controlled rep rate and external triggering option is highly preferred.

Standard LDs at select wavelengths in UV/Vis/NIR range (approximate wavelengths in nm (± 5 nm): 405, 485, 560) should be provided. The pulse-width for each must be clearly mentioned.

Separately quote for all other optional UV/Vis/NIR (~ 350 nm to ~ 950 nm) LDs and CW/pulsed sources (for example, tunable supercontinuum source) with details.

2) LEDs with ~ 900 ps or better temporal width (FWHM).

Standard LEDs at select wavelengths in UV/Vis/NIR range (approximate wavelengths in nm (± 5 nm): 295, 315) should be provided. The pulse-width for each must be clearly mentioned.

Separately quote for all other optional UV/Vis (~ 250 nm to ~ 600 nm) LEDs with details.

3) For future application, optional coupling to a femtosecond (~ 100 fs FWHM) Ti:sapphire laser and/or visible OPA in future should be possible.

4) For steady-state absorption, excitation monochromator with computer-controlled grating rotation, slit-width adjustment and switching between lamps (if multiple lamps are used) is preferred.

Details (source type, monochromator type (single or double), focal length, grating dispersion and blaze wavelength, etc) should be provided.

5) For future application, optional coupling to steady-state and time-resolved (if possible) NIR (up to $\sim 1.4\mu\text{m}$) source should be possible and should simply be configured by easily replacing the grating(s).

Separately quote for accessories for both steady-state and time-resolved (if possible) excitation with all details for every component (source, excitation monochromator) for this NIR range.

6) Separately quote for additional excitation source at a fixed wavelength (~ 550 nm) with dual picosecond pulsed and CW mode operation (if any).

Detection:

1) For fluorescence detection (both steady-state and TCSPC), emission monochromator with computer-controlled grating rotation and slit-width adjustment is highly preferred.

The resolution should be ~ 1 nm or better.

Details (monochromator type (single or double), focal length, grating dispersion and blaze wavelength, PMT sensitivity, etc) should be provided.

2) For TCSPC the detector is preferred to be an MCP-PMT (like the standard R3809-50 or better) and must be kept in a temperature controlled (Peltier cooled or fan cooled) housing.

Details of the MCP-PMT (sensitivity, dark noise, transit time-width, etc) should be provided.

The lowest IRF (achieved with femtosecond excitation) and the IRF with the LD having lowest pulse-width must be clearly mentioned.

3) For time-resolved anisotropy measurement, motorized (computer controlled) toggling of GT prism-polarizer must be done.

4) For fluorescence quantum yield measurement, an integrating sphere must be assembled very easily whenever needed.

Separately quote for integrating sphere with accessories.

6) For future application, optional coupling to steady-state and time-resolved (if possible) NIR (compatible with the NIR excitation up to $\sim 1.4\mu\text{m}$) detection should be possible and should simply be configured by easily replacing the grating(s) or/and the PMT(s).

Separately quote for accessories for both steady-state and time-resolved (if possible) detection with all details for every component (detector, emission monochromator) for this NIR range.

5) Clearly mention if the input from an independent fluorescence microscope can be used as input to

TCSPC set-up via optical fibre for FLIM.

Separately quote for FLIM accessories (if possible).

Sample:

1) The sample chamber must be temperature controlled.

The temperature range with coil/Peltier cooling/heating or other method (without cryostat) must be clearly mentioned.

2) For future application, optional cryostat (liquid nitrogen) cooling/heating (77K up to ~500K) must be possible.

Separately quote for cryostat with accessories.

3) Quartz cells of following sizes (one pair of each type) must be provided: 10mm x 10mm, 10mm x 5mm, 10mm x 2mm. Additional pair of glass cells of 10mm x 10mm size must be provided.

4) There should be in-built stirring of liquid sample with magnetic stirrer and/or flow cell type arrangement with peristaltic pump.

5) Clearly mention if the if fluorescence can be collected in reflection mode (for thin films).

Separately quote for reflection mode accessories (if possible).

Hardware & software:

1) Details of the CFD, TAC/TDC range, electronic jitter, etc must be clearly mentioned.

2) The system software must acquire, fit and analyze the data through user-friendly interface. Analysis like tail fitting, numerical reconvolution, lifetime distribution, anisotropy analysis, global lifetime analysis, error analysis, etc must be done easily. Multiple PC licenses for the data analysis software is highly preferred.

All additional features of the software, if any (like, TRES measurement, FRET analysis), must be clearly mentioned.

Other details:

1) All additional accessories (neutral density filters/attenuators, desktop unit, power cables and connectors, etc) should be provided.

2) Should clearly mention about the installation, training, warranty and maintenance.

3) Should provide name and address of at least 10 different users of the quoted model(s) within India and in abroad.