

TENDER

for

Supply and Installation of

RESEARCH GRADE SPECTROFLUOMETER FOR PHOTOLUMINESCENCE (PL) MEASUREMENTS

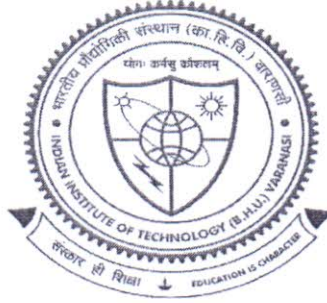
in the

**Department of Electronics Engineering
IIT(BHU), Varanasi**

Tender No.: IIT(BHU)/EC/2015-16/989

Tender Date: 23.11.2015


Last Date of Submission: 23.12.2015



**Indian Institute of Technology
(Banaras Hindu University)
Varanasi-221005**

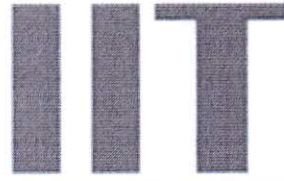
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भारतीय प्रौद्योगिकी संस्थान (का.हि.वि.)/Indian Institute of Technology (BHU)
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भारतीय
प्रौद्योगिकी
संस्थान
काशी हिन्दू विश्वविद्यालय

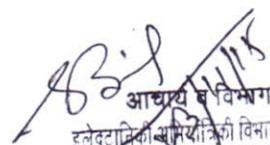


INDIAN
INSTITUTE OF
TECHNOLOGY
BANARAS HINDU UNIVERSITY

**Advertised Tender Enquiry Documents
(NOTICE INVITING TENDER)**

On behalf of the Director, IIT (BHU) Varanasi, sealed item rate tenders from manufactures (or their 'authorized' dealers by submitting letters/certificates, in original, from the manufacturers that they have been authorized to quote in response to this NIT) of the following items are invited:

Sl. No.	Tender no.	Specifications & quantity of the item	Earnest Money Deposit (EMD)
1.		<p>Name of the Instrument:- Research Grade Spectrofluorometer for Photoluminescence (PL) Measurements</p> <p>Qty.: 01</p> <ol style="list-style-type: none">Research Grade Spectrofluorometer with<ol style="list-style-type: none">450W ozone free Xe source or better and power supply.Double Czerny-Turner excitation spectrometer with 1200 g/mm gratings blazed at 300 nm/330 nm with a pair of grating turret to enable range extension in the future.Single Czerny-Turner emission spectrometer with 1200 g/mm or better (preferable) blazed at 500 nm, with two exits for ease of upgrade to additional detector in the future with a grating turret to enable range extension in the future by adding an additional 2 gratings.Continuously adjustable entrance and exit slits operated under computer control.Photodiode reference detector and excitation shutter.R928 PMT 250-850nm emission detector, photon counting electronics, controlling software and instrument controller.The optics in the spectrofluorometer system should have better light collecting efficiency for focusing at all wavelengths and precise imaging for micro samples.Signal to Noise Ratio (SNR) based on FSD Method: 6,000:1 or better. Preference may be given to the system with higher SNR but at comparable rate. The SNR calculation should use	Rs. 70,000/


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221005 (INDIA)

the industry standard FSD method. The photon-counting instruments should use the water Raman signal with excitation wavelength = 350 nm, spectral bandwidth =5 nm, and integration time =1 s for noise ratio calculation.

4. Excitation range: Minimum corrected excitation range of 250-900 nm with optimized response in the UV region. Preference may be given for the system with Grating turret on both stages of the excitation monochromators for the possibility of adding two extra grating pairs in the future in order to optimize the range further in the visible or infra-red.
5. Emission range: 200-850 nm, optimized in the visible band.
6. Wavelength Accuracy: minimum +/- 0.5 nm or better.
7. Emission detector: R928PMT, 200-850nm working in Photon Counting mode
8. Power Supply Requirement: The system must operate at single phase 220V, 50Hz power supply.
9. Samples for Measurements: The system should be capable of measuring the photoluminescence (PL) of thin film materials with weak fluorescence properties.
10. Necessary liquid cuvettes and Solid Sample Holder designed for viewing front-face fluorescence of thin films, powders, pellets, paper, fibers and microscopic slides. The solid sample holder position should be adjusted back and forth from the outside of the instrument with sample in, sample compartment closed and emission detector switched on in order to optimize the signal for thin films. Preference may be given if the sample holder is in-built in the system at comparable price.
11. Necessary accessory for front face and right angle detection should be offered.
12. Computer with Software for data collection, analysis and system control should be supplied as an integral part of the system.
13. System should have in-built complete set of filters including holders with cut-on wavelengths in the UV and Visible region. They may be quoted as optional items if they are not in-built in the system. However, preference may be given to the system with in-built feature but at comparable price.

		<p>14. Accessories for temperature controlled measurements and polarization accessory should be quoted as optional items.</p> <p>15. The system should be future upgradeable in the field itself for</p> <ol style="list-style-type: none"> Time correlated Single photon counting Automated Polarizers for Anisotropy measurements Phosphorescence NIR measurements 	
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The Tender Documents for items will be on two-Bid System consisting of Technical Bid and Price Bid. The Tender Documents will be submitted item-wise in two separate sealed covers clearly mentioning on the envelope the details of items for which bid is submitted. Any firm may bid for any number of items against the purchase of Tender Document but each offer must be item-wise in two bid cover enclosing item-wise EMD with Technical Bid.

The Tender Document (non-transferable) along with detailed specifications, terms and conditions may be **downloaded from the institute website([www.iitbhu.ac.in/iitnotifications/purchase enquiries/](http://www.iitbhu.ac.in/iitnotifications/purchase_enquiries/))** or from Central Public Procurement Portal (CPPP) by the interested supplier along with payment of non-refundable Tender price as mentioned below. The Tender price may be paid in the form of Bank Draft in favour of Registrar, IIT (BHU) payable at Varanasi.

- Price of Tender Document (Non-refundable): **Rs. 500/-** (Rupees Five Hundred Only)
- Last date and time for receipt of Tender Document: **December 23, 2015 (up to 16:00 Hrs.)**.

The tender should be addressed to **The Registrar, IIT (BHU), Varanasi**, and should be delivered in person or sent by registered post / courier so as to reach the institute on / before the last date up-to 16:00 Hrs. No tender will be accepted after the due date and time.

- The tender will be opened on **28.12.2015 at 12:30 Hours** in the office of the **Head, Department of Electronics Engineering, IIT(BHU), Varanasi-221005**. All Tender Documents must be accompanied by the Bid Security / Earnest Money Deposit (Refundable) equivalent to 2 to 5% of quoted cost of the basic Instrument by the bidder **OR Rs. 70000/** (*incase the Earnest Money amount is fixed*). The Earnest Money Deposit is to be paid in the form of Bank Draft / Fixed Deposit Receipt / Bank Guarantee in favour of the Registrar, IIT (BHU) payable at Varanasi. **The Bid Security / Earnest Money Deposit Bank Draft must be enclosed with Technical Bid in a separate sealed envelope**. The details of Bank Draft / Fixed Deposit Receipt / Bank Guarantee of Earnest Money Deposit must be endorsed on top of envelope containing Technical Bid.

The Institute shall not be responsible for any delay in receiving Bids/sending of Tender Document by post.

The Institute reserves the right to accept or reject any bid, without assigning any reason thereof. No correspondence in this regard will be entertained.

Earnest Money shall be forfeited in case it is found at any stage that information/particulars regarding supply of tendered item (s) is false.

(Registrar)


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