

Department of Materials Science and Engineering

Date: 6th September 2013
IITK/MSE/SI/Raman-01

Due date: 5PM on 18th September 2013

Quotations from prospective vendors are invited by the Department of Materials Science and Engineering, IIT Kanpur for a Confocal Micro Raman system and the indicated optional items.

Note: The technical bid and financial bid must be placed in separate envelopes each of them properly sealed. These two sealed envelopes then should be placed in another single envelop, also sealed. First, the technical bids for all the quotations received within the due date mentioned above will be opened, and only for those which meet the technical specifications the financial bids will be opened.

The quoted Confocal Micro Raman system must have following minimum technical specifications.

(1) Minimum technical specifications:

1. Laser:	532nm (minimum 50mW) with polarizer kit
2. ND filters:	0.01% to 100% with at least 9 levels of optical density
3. Microscope with motorized XYZ stage:	25mm x 25mm travel in XY (at least) and 20 micron in Z with 100nm or smaller step size in XY and Z directions; USB camera with sample illumination
4. Objectives:	5x, 20x, 50x, and 100x objectives with 1 micron of smaller spatial resolution with 100x objective.
5. Rayleigh filters:	Edge filter with 50 cm^{-1} (or lower) cut-off.
6. Spectral resolution:	1 cm^{-1} or better over the whole spectral range (from cut-off to 4000 cm^{-1}), at least 2 gratings of different line density should be included.
7. Detector:	Peltier cooled (cooled to -70°C or below) CCD detector for spectral resolution of 1 cm^{-1} or better.

8. Upgradability:	System should be upgradable to include at least three lasers (total) and include AFM/NSOM in future (please include options of AFM/NSOM that can be added)
9. Automation	Automated laser switching and auto focus.
10. Repeatability:	0.05 cm ⁻¹ or better
11. Software:	For Raman peak based chemical analysis. (5 licenses for off-line data processing should be included).

(2) Optional items

The vendor/manufacturer sending the quotation for Raman system is also required to quote for the following optional items with indicated specifications.

- 12. Laser kits:** (with and without polarization) for 785nm and 633nm wavelength Laser.
- 13. Bragg filter:** For low cut-off (10cm⁻¹ or lower) for 532nm excitation.
- 14. Controlled temperature cryostat:** A cryo-stage along with the long-working distance objective either 100X or 50X, for the measurements at different temperature from liquid-nitrogen to 600°C.
- 15. Enclosure:** Sample enclosure with class one Laser safety with interlocks.
- 16. Piezo stage:** XY scan 100µm x 100µm; Z scan range 20 µm with step size 1 nm or less.

Terms and Conditions

- 1) Provided the technical bid meets the minimum specification, the final decision in favor of a bid will be made based on the financial bid, price quoted for the optional items, favorable payment terms, and after-sales services offered, and delivery time.
- 2) Quotation must indicate both the **CIF** and **FOB** prices. CIF must be till IIT Kanpur.
- 3) The manufacturers for all the OEM items that will be used in the quoted Raman system must be explicitly mentioned.
- 4) The quoted system must come with minimum one-year warranty on all parts including Lasers and immediately following this either a two years of additional warranty or two years of annual maintenance contract. The Warranty must start from the date of installation at IITK.
- 5) Installation, demonstration, and training-sessions for two days at IIT Kanpur will have to be provided by the manufacturer or the vendor for the quoted Raman system.

Quotations must reach at the following address by 5PM on 18th September 2013.

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 Uttar Pradesh