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15-NOV- 2012

Sealed quotations are invited and should reach the undersigned latest by the 17-DEC-2012, for:

Atomic force microscope (AFM)

Capable of the following modes of operation as a stand-alone unit.

- AFM contact mode (ambient air),
- Non Contact AFM (tapping mode),
- Phase imaging,
- LFM (Force Modulation / spectroscopy),
- Fluid Imaging Topography (Imaging with fluid cell).

Minimum capabilities:

- X-Y scan, Min. range > 90 μ m X 90 μ m,
- Z scan range \geq 10 μ m.
- Minimum resolution of 1 nm in X-Y and (noise and drift should permit this over the entire scan area)
- Better resolution than 0.05 nm along Z. (noise and drift should permit this over the entire scan area)
- The AFM will be able to accommodate samples of max. dimensions of 26 mm diameter and at least 5 mm thickness.
- Open loop and closed loop should be possible. The resolution in each case for X, Y and Z should be clearly specified at given scan area and scan rate.
- The AFM should have an attached microscopic arrangement to view the sample and tip with a minimum resolution of 2 μ m or better (40X or 50X magnification LWD objective), coupled along with a color, zoom CCD camera. Microscopes from high quality providers like Olympus, Zeiss, Nikon or Lyca will be preferred.

- The AFM will have a low coherence laser source with a position sensitive detector optimized for the laser wavelength used for the detector of the cantilever position.
- The AFM will be provided with suitable electronic control, feedback and imaging capabilities, and particularly have high quality lockin amplifiers with sufficient frequency bandwidth for good phase and amplitude imaging.
- A suitable vibration isolation system and acoustic isolation box should be included.
- Fluid cell with two post connection for inlet/outlet. These posts could be open or closed as per requirement.

Software and computer:

- All necessary software for the capture, storage (in standard digital formats) and analysis of AFM images
- Addition free licenses upto 10 for only post-imaging analysis software.
- Computer processor should be core i7 or better with 1 TB HDD
- Appropriate software for capturing image both in phase + amplitude modes as well as force spectroscopy.

AFM Tips: 10 sample tips of each kind for contact, non-contact (trapping) and lateral force imaging and high aspect ratio (5 pieces) should be supplied.

Calibration samples: Standard calibration samples for X-Y-Z calibration.

Important essential points:

Quote should be made in two parts: Technical bid and financial bid separately in sealed envelopes. Financial bids for products whose technical bid is not acceptable will not be opened. Any quote with the financial bid included in the technical bid will be summarily rejected.

The sealed envelopes with the quotes should be superscribed with the Inquiry number and whether it is a technical or financial bid.

Firms submitting acceptable technical bids will be invited to make a technical presentation on the product to the Purchase committee before opening of the financial bids. The committee, at its discretion, may choose to reject the bids of firms not making the presentation.

Quotes should be made options for the following delivery modes

- Ex-works for pickup by our worldwide transport provider
- FOB in country of origin
- CIF, New Delhi
- For delivery to IIT Kanpur

Maximum educational discounts should be applied – this equipment will be used to teach and train students.

Quotes should have a minimum validity of 60 days

Address the quotations to
Prof. S. Anantha Ramakrishna
Department of Physics
Indian Institute of Technology Kanpur
Kanpur – 208016 India.
so as to reach before the last date, i.e., 17-December-2012.

Sincerely

S. Anantha Ramakrishna