

SOLID STATE AND STRUCTURAL CHEMISTRY UNIT
Indian Institute of Science, Bangalore

Request for Quote for the procurement of
Scanning Microscope Pulse Characterization Device
Indian Institute of Science, Bangalore
(Last Date: 22nd June 2022)

This is an RFQ (Request for Quote) for *Scanning Microscope Pulse Characterization Device* in SSCU, IISc Bangalore. Only domestic (India-based) manufacturers, Indian OEM or its authorized Indian distributor are invited for submitting bids for the item at this time.

Procedure:

1. Vendors will be required to submit a technical proposal and a commercial proposal in **two separate sealed envelopes**. Only vendors who meet the technical requirement will be considered for the commercial negotiation.
2. **The deadline for submission of proposals is 22nd June 2022, 5:30 pm Indian Standard Time.** The proposals should arrive as a sealed hardcopy.

The bids should be addressed to:

The Chairman,
Solid State and Structural Chemistry Unit,
Indian Institute of Science,
Bangalore 560012, India.

The sealed bids should be sent to the office of:

Prof. Vivek Tiwari,
Solid State and Structural Chemistry Unit,
Indian Institute of Science,
Bangalore 560012, India.
Office: 08022932336
E-mail: vivektiwari@iisc.ac.in

3. The technical proposal should contain a technical compliance table with 5 columns.
 - a. The first column must list the technical requirements, in the order that they are given in the technical requirement below.
 - b. The second column should provide specifications of the instrument against the requirement (please provide quantitative responses wherever possible).
 - c. The third column should describe your compliance with a “Yes” or “No” only. Ensure that the entries in column 2 and column 3 are consistent.
 - d. The fourth column should **clearly state the reasons/explanations/context** for deviations, if any. Without clear explanation, just stating “Yes” and “No” will not be considered.

- e. The fifth column can contain additional remarks from the OEM. You can use this opportunity to highlight technical features, qualify response of previous columns, or provide additional details.
4. The commercial proposal should have the price of the item. All the accessories, including wiring, adapters and softwares needed for the tool to function as per the technical specification, must be listed in the quotation.
5. As an option, please provide itemized cost for any suggested accessories/add-ons that may enhance the usability, capability, accuracy, or reliability of the tool. Vendors are encouraged to quote for as many add-ons as their tool portfolio permits.
6. The commercial bid must include the price of the item in Indian currency, indicating the following separately:
 - a. equipment price
 - b. FOR-IISc Bangalore shipping
 - c. Total
7. Vendors are encouraged to highlight the advantages of their tools over comparable tools from possible competitors.
8. If multiple items can fulfil the requirements, vendors can submit multiple bids.
9. Any questions can be directed to Prof. Vivek Tiwari, Solid State and Structural Chemistry Unit, Indian Institute of Science, Bangalore 560012, India. vivektiwari@iisc.ac.in

Terms and Conditions:

1. The following applies in case the total Bid value including taxes and transportation is greater than 5 Lakh INR: The Bidder should belong to either class 1 or class 2 supplier distinguished by their “local content” as defined by recent edits to GFR. They should mention clearly which class they belong to in the cover letter. a) Class 1 supplier: Goods and services should have local content of equal to or more than 50%. b) Class 2 supplier: Goods and services should have local content of equal to or more than 20 % and less than 50%.
2. Note that Point 1 is applicable in case the bid value is greater than INR 5 lakhs.
3. Your quotation should clearly indicate the terms of delivery, delivery schedule, entry tax, and payment terms. The quotations should be on FOR-IISc Bangalore basis in INR only.
4. The validity period of the quotation should be at least 90 days.
5. The vendor is responsible for the installation of the item at the IISc campus.
6. The RFQ must include references of at least 3 previous installations of quoted parts, with at least one in the US, and one in Europe. Please provide the names and contact addresses of the referees so that they can be contacted independently if required. All other things the same, more number of installations and references will be given preference.
7. The vendor should be able to repair and maintain the equipment once it is installed in India. Clarify if periodic (preventive) maintenance can be done by a trained on-site engineer (i.e. IISc employee) or requires a specialist from the OEM. The vendor should

- have qualified technical service personnel for the equipment based in India and must assure a response time of <24 hours after receiving a service request.
8. If the maintenance can be done by training a IISc employee, please specify the cost of this training, as an additional option. If maintenance must be done by OEM, as an additional option, provide cost of an annual maintenance contract (AMC) for 3 years, post warranty. The AMC must cover 1 scheduled and 1 emergency visit per year. It must also indicate who will service the AMC, an Indian agent, or the OEM. The AMC cost must also include an itemized list of spares that are essential for the scheduled visits.
 9. Necessary training to operate the procured item and required literature support should be provided without additional cost.
 10. Vendors should undertake to support the item with spares and software bugfixes, if any, for the next 5 years.
 11. Please indicate the warranty provided with the tool. No travel claims must be made by vendor for servicing during the warranty/guarantee period.
 12. The lead-time for the delivery of the equipment should not be more than 4 months from the date of receipt of our purchase order.
 13. The indenter reserves the right to withhold placement of final order. The right to reject all or any of the quotations and to split up the requirements or relax any or all of the above conditions without assigning any reason.
 14. Wherever requested in this specifications sheet, data must be supplied along with technical compliance documents. Technical bids without supporting data will be deemed as technically non-compliant.
 15. All guaranteed specifications will have to be demonstrated, upon request, in an active installation. Failure to demonstrate any promised specifications will be deemed as technical non-compliance.
 16. Printed literature and published papers in support of all compliance to the prescribed specifications may be provided.
 17. Technical evaluation by the institute must include demonstration to verify functionalities and capabilities of the item quoted. Any discrepancy between the promised specifications and demonstrated specifications will be deemed as technical non-compliance. If need arises, the vendor must be ready to physically visit IISc for a techno commercial discussion.
 18. The technical specifications given below are highly desired. However, we reserve the right to lower technical specifications to obtain a more competitive price.

Technical Requirements:

The item should be research grade *Scanning Microscope Pulse Characterization Device* with following specifications:

- A. Pulse Characterization Metric - The device should be able to generate a second order intensity autocorrelation. This could be either based on second harmonic crystal or a two-photon detector. This is detailed further in points B-D.
- B. Pulse Duration and Wavelength - The second harmonic intensity autocorrelation for full-width half maximum (FWHM) pulse durations between 10-20 fs for at least three possible central wavelengths - 500 nm, 570 nm and 600 nm. At each central

wavelength, the second harmonic spectrum should correspond to the second harmonic of the transform limited spectrum for 10 fs pulse duration. The data supporting this technical requirement should be clearly provided.

- C. If multiple second-harmonic crystals or photo-detectors are required to meet the requirement in point B, it should be clearly specified along with itemized cost for all crystals or detectors. It should also be specified whether the end user can replace the photodetector or crystal.
- D. Input Pulse Energy and Repetition Rate - The autocorrelator should be able to give second harmonic intensity autocorrelation for pulse energies as low as 1 nJ at 100 kHz for each central wavelength of point A, with FWHM spectrum corresponding to 10 fs pulse duration. The best possible signal-to-noise ratio available with a given exposure time for this minimum pulse energy should be clearly stated along with supporting data.
- E. Detection - The device should be based on detection of second harmonic wavelengths generated through a second harmonic crystal and detected through a UV sensitive CCD or CMOS camera. The spectrum of the second harmonic should correspond to a transform limited pulse of duration 10 fs, as mentioned in points A, B, with supporting data to be provided. Even a two-photon intensity photodetector that satisfies all the above requirements is suitable as long as the supporting data is clearly provided.
- F. Detector Specifications - Specifications of the detector in point E, such as wavelength detection range and sensitivity, have to be specified very clearly.
- G. Optical Dispersion from Device - The optical dispersion encountered by a 10 fs pulse as it passes through the device should be clearly stated for all the central wavelengths of point B.
- H. Scan Resolution and Speed - Less than 0.5 fs with >10 ps/sec scan rate
- I. PC Interface - USB 3.0 or higher
- J. Software - Appropriate Windows 10/11 compatible software which interfaces with the device to provide data measurement and analysis should be provided. If the dispersion in point E is not negligible, it should be clearly specified whether the software analysis account for it or not.

NOTE:

1. Minimum one year warranty from the date of installation should be provided.
2. Offered source specifications, product make, model and country of origin should be given on the OEM website with the URL provided in the technical bid to verify the authenticity of specifications.
3. A detailed compliance statement with respect to above mentioned specification should be enclosed along with the offer. We may request additional experimental data to justify the specifications in case the offered justifications are found inadequate.