भारतीय विज्ञान शिक्षा एवं अनुसंधान संस्थान मोहाली

भारत सरकार द्वारा स्थापित

सैक्टर-81,नॉलेज सिटी,प॰ ओ॰ मनोली, एस॰ ए॰ एस॰ नगर,मोहाली, पंजाब 140306

INDIAN INSTITUTE OF SCIENCE EDUCATION AND RESEARCH MOHALI

(Ministry of Education, Govt. of India)

Sector-81, Knowledge city, PO-Manauli, SAS Nagar Mohali-140306, Punjab

PAN No. - AAAAI1781K GSTIN No:- 03AAAAI1781K2ZS

• **Phone : +91-172- 2240121** • **Fax : +91-172-2240124** • **http://www.iisermohali.ac.in** • **Email:** stores@iisermohali.ac.in

CPPP/Institute Website

IISERM (1430)20/21-Pur Dated: 15th February 2021

NOTICE INVITING E-TENDER

Online tenders are invited on behalf of the Director, IISER Mohali in **TWO BID SYSTEM** for the **Supply, Installation and commissioning of Three Channel 500 MHz NMR Spectrometer with accessories** as per technical specification and details given below and BOQ list from the original manufacturer/supplier at CPPP i. e. **https://eprocure.gov.in/eprocure/app**. Tender documents may please be downloaded from the E-procurement portal website **https://eprocure.gov.in/eprocure/app**& Institute website **www.iisermohali.ac.in.**

-sd-

Assistant Registrar (P&S)

NOTE: This is a domestic Tender according to the DPIIT Order dated 15/07/2017 and subsequent amendements to the order for Public Procurement Preference & PROVISION FOR LOCAL SUPPLIERS TOWARDS PREFERENCE TO MAKE IN INDIA.

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E-TENDER NOTICE

Tender Ref.- IISERM(1430)20/21-Pur	Dated :- 15th February 2021

Critical Date Sections

Sr.	Description	Date	Time
1.	Tender Publishing Date and time	15th February 2021	6:00pm
2.	Tender Document download start Date & Time	15th February 2021	6:00pm
3.	Bid Submission start Date &Time	15th February 2021	6:00pm
4.	Bid Submission End date and Time	11th March 2021	Upto 11:00am
5.	Tender opening Date and Time	12th March 2021	At 11:30am

Online tenders are invited on behalf of the Director, IISER Mohali in **TWO BID SYSTEM** for following item(s) from the original manufacturer/supplier at CPPP i.e. **https://eprocure.gov.in/eprocure/app**. Tender documents may please be downloaded from the E-procurement portal website **https://eprocure.gov.in/eprocure/app** & Institute website **www.iisermohali.ac.in. ONLINE PAYMENT** of Tender fee of Rs 590/- (Non-refundable) and EMD of Rs.12,00,000/- should be submitted by Name & Branch: Canara Bank Saving Account Number: 4790101001912 IFSC Code CNRB0004790 in favour of **The Registrar, IISER Mohali** payable at Mohali. However, scanned copy of the both tender fee and EMD [Original UTR Receipts] should be upload on website along with technical bid part. The hard copy of the same in original to be send to the address mentioned below duly superscribing the supply/work name and reference/ tender ID on the envelope and same must reach before opening the bid and if not received within due date the bid will be rejected summarily. **Micro & MSME/NSIC and Firms registered and the firms registered with concerned Ministries/ Departments, the bidders are exempted from payment of Tender Fee/EMD as per GOI notifications/GFR (2017) and Ministry of Finance OM No. F.9/4/2020-PPD dated 12 November 2020.**

MSME/NSIC bidders are exempted from payment of Tender Fee/EMD as per GOI notifications/GFR (2017). Bidders will also be required to execute bond/undertaking Bid Security Declaration Form attached as ANNEXURE-A for availing exemption to submit EMD.

The Original EMD and Tender Fee should be sent to:

Assistant Registrar (P&S)
Indian Institute of Science Education and Research Mohali
Sector-81, Knowledge City, SAS Nagar, Mohali, Punjab,
India, Pin: 140306

Non-receipt of original EMD and Tender Fee will lead to rejection of tender.

ITEM WISE DETAILS

Sr.	Description	Qty. (in units)
1.	**Supply, Installation and Commissioning of Three Channel 500 MHz NMR Spectrometer with accessories** **Technical Specifications:** **Item A (Part A)** **1. MAGNET:** Latest technology based actively shielded superconducting magnet (11.74 Tesla) with operational frequency of 500 MHz for 1H NMR. Bore diameter: 54 mm (standard bore). Specify manufacturer of magnet. Shortest possible 5G fringe field (radial from the centre of the magnet 0.6 m or less, and axial from the centre of the magnet 1.5 m or less) with advanced shielding technology. Expected field drift 5 Hz/hr or less. Deuterium lock channel should be compatible with gradients and automated shimming hardware. Automated and manual shimming capability with associated hardware and software accessories. Long Liquid Nitrogen hold time of at least 10 days, refill volume should be specified. Liquid Helium hold time: a minimum of 150 days or more, refill volume should be specified. High performance in-built cryo- and room temperature shim system for optimal line shape. Specify number of cryo-shims (minimum of five cryo-shims) and number of room-temperature shim systems (minimum of twenty room temperature shims). Specify the number of gradient coils. Pneumatic sample loading/ejection and sample spinning controlled by software. Anti-vibration feet pad for dampening the floor vibrations (capable of damping frequencies upto 5 Hz or more). Mention the lower limit of the damping frequency vibrations. Digital Liquid Helium and liquid nitrogen level meters with alarm function for low levels **2. SPECTROMETER CONSOLE AND ELECTRONICS:** Advanced feature based three broadband frequency generation independent identical RF channels (full frequency range generation) for multinuclear experiments with highest frequency and phase resolution. Fast switching time for all parameters, without any hidden delays. Wave form generators for pulse shaping, amplitude phase and composite pulse decoupling generator with simultaneous switching of parameters. Shaped pulse calibration capabilities. High performance preamplifiers with standard filters and digital receiver control with oversampling and quadrature detection and complete elimination of quadrature spikes and other artifacts. Mention the frequency scale of operation alongwith configuration and band width of each channel. Three-channel amplifier system with linear broad band amplifiers with minimum power levels of 100 W for 1H or better and 500W or better for X and Y (13C,	1

15N, 31P and other active nuclei), respectively for double resonance liquid state NMR experiments and decoupling. All relevant parameters including power, frequency range, duty cycle, maximum pulse duration etc. have to be explicitly specified.

Digital 2H lock channel. Lock system with high precision phase- and field-correction. Built-in tune/match display. Addon filters for noise reduction.

Single/dual/multi receiver capability, high bandwidth digital receiver for NMR signal acquisition, filtering, sampling, multinuclei acquisition etc. Simultaneous acquisition on multiple channels.

Gradient unit: Z-shielded gradient with ability to perform gradient spectroscopy including 3D DOSY-type experiments. Pulsed field gradient (PFG) strength of 30G/cm or greater, high quality PFG-based solvent suppression and multi-dimensional experiments. PFG of desired shape and gradient shimming capabilities.

Temperature control unit: Ability to perform variable temperature experiments from -100 deg centigrade to +150 deg centigrade. Temperature resolution 0.1 degrees centigrade or less.

3. **PROBES:**

Provide detailed technical specifications for all probes (sensitivity values for each nucleus, resolution, line-shape, sample volume etc).

Probe 1: 5 mm multinuclear broadband double resonance probe with Z-shielded gradient, optimized for X-nuclei observe with 1H decoupling and 1H observation. (Specify frequency range for X). Capable of 19F/1H observe/decouple on the same probehead. Ability to perform 2D 1H/19F experiments. Superior single or multiple solvent suppression using presaturation or pulsed field gradients. Variable temperature operation (specify temperature range). 2H lock. Built-in Z-gradient coil for PFG (specify gradient strength). High S/N ratio. 1H sensitivity ≥ 800 : 1; 19F sensitivity (1H dec) ≥ 700 : 1; 13C sensitivity ≥ 250 : 1; 13C sensitivity (1H dec) ≥ 300 : 1; 31P sensitivity ≥ 200 : 1; 15N sensitivity ≥ 30 : 1; Automated tuning and matching capability.

Probe 2: 5mm 1H optimized triple resonance broad band probe for 1H observation and simultaneous 13C/15N nuclei decoupling. Variable temperature operation (specify temperature range). 2H lock. Built-in Z-gradient coil for PFG (specify gradient strength). High S/N ratio. Automated tuning and matching capability.

Probe 3: 3.2mm CPMAS H/X double resonance probe for high-resolution solid state NMR experiments. X channel tunable to nuclei 31P, 7Li, 11B, 23Na, 27Al, 13C, 79Br, 207Pb, 29Si, 6Li, 15N and 1H, 19F high power decoupling. Specify temperature range and maximum rotation frequency. Specify all rotor kits (rotors, rotor packer, cap removal tool etc) which are included. Specify all units such as pneumatic units, rotor transfer system, heat exchanger etc which are required for proper functioning of this probe.

Probe 4: 3.2mm High-resolution magic angle spinning (MAS) probe for semi-solid samples, intact tissue and gel samples and emulsions (specify sample

spinning rates). Doubly-tuned to 1H and 13C. With 2H lock. Built-in Z-gradient coil for PFG.

4. **HARDWARE AND SOFTWARE:**
One High-end workstation for data acquisition and processing with latest configuration with hardware equivalent or higher than the following: Processor Intel Xeon W-2255, RAM 64 Graphics nVIDIA Quadro RTX 4000 8GB, Storage SSD 512GB+SATA 2TB Base freq GHz 3.7 GHz, USB 3.0 port for fast data transfer, two LCD/TFT monitors (24 inch or larger). One additional workstation (with 24 inch or larger LCD/TFT monitor) having similar configuration, for off-line data processing. Workstations should be easily serviceable in India in case of any fault. High performance Laserjet multifunction printer B/W. Linux-based or MAC OSX Operating System. Licensed Software modules to include acquisition, processing, plotting and analysis of multidimensional, multinuclear experiments including specialized modules for 3D DOSY experiments. Experimental pulse sequence and spectral simulation, latest packages for deconvolution, projection reconstruction, Non-Uniform sampling. Compatible software suitable for dynamics and diffusion and relaxation data processing packages. Structure elucidation software. Software for Quantification of NMR spectra. Free updates for entire warranty period. Additional 5 processing licenses. Complete set of all manuals (service and operational) should be provided as hard copies and soft copies (on disk).

5. **MISCELLANEOUS AND ACCESSORIES:**
   - **a)** Two ISO-9001 certified imported oil-free scroll air-compressors complete with dryer and all required filters, 3HP capability, and proper ratings and specifications and one sufficiently large buffer tank (one air-compressor to be used as backup to ensure continuous air supply with no failures). Noise free operation and vibration damped. Price to be quoted in INR.
   - **b)** Liquid helium transfer line.
   - **c)** Liquid nitrogen transfer line. 04 containers of 55 litres capacity alongwith transfer line and pressure gauge, appropriate length of corrugated plastic tubing with silicon tubing to fit to nitrogen inlet ports, and one trolley for transportation.
   - **d)** Liquid helium and liquid nitrogen required for installation to be provided by the NMR vendor. **In case of magnet quenching during installation, the NMR vendor will take full responsibility for recharge of magnet and provide the cryogens required for re-installation at no additional cost.**
   - **e)** Liquid helium supply and refill contract for 4 years from date of installation. Price to be quoted in INR.
   - **f)** Set of standard test samples (for lineshape, sensitivity and other tests) for multinuclear solution NMR (including one isotopically doubly 15N, 13C labeled biomolecule in a sealed tube).
   - **g)** Set of standard test samples for multinuclear solid state NMR.
   - **h)** 500 high quality 5mm NMR tubes for RT and high quality 5 mm NMR tubes for high/low temperature studies (50 each).
   - **i)** 50 low pressure/vacuum NMR tubes.
   - **j)** 50 Spinners for room temperature operations and spinners for low/high temperature applications (10 each).
   - **k)** 20 additional rotors for solid state NMR probe.
   - **l)** 20 additional rotors for HR MAS NMR probe.
   - **m)** Nonmagnetic toolkit, essential spare parts, gloves for filling gases, spare fuses and one spare set of cooling fans.

6. **WARRANTY:**
Comprehensive on-site warranty for 4 years after completion of standard one

year warranty including: all parts and labor; proper schedule of regular maintenance visits and emergency visits; regular upgrades to software during the warranty period. Ensure availability of spare parts and consumables for at least 10 years for the installed spectrometer model from the date of installation. Third party/local items supplied along with the instrument should have same warranty period as the main instrument.

7. **TRAINING:**
   Comprehensive on-site training for PI research group members for 04 weeks.

8. **PRICE FREEZE:**
   Guarantee of price freeze on any additional RF probes if bought with in the period of 02 years, from date of installation.

Item A (Part B)

- **Optional Items:**

1. Upgrade of the 11.74 Tesla superconducting magnet with longer liquid helium hold times of more than 150 days, (specify hold time) keeping all other magnet specifications the same. **Quote only the price difference from the magnet quoted in Part A.**
2. High resolution probe with single-axis Z-gradient and 2H lock. To handle small sample volumes. For standard 1H observation and irradiation of one nucleus from multiple nuclei.
3. Nitrogen liquefier for replenishing liquid nitrogen used in superconducting magnet. Noise free. Specify nitrogen liquefaction rate. Specify power requirements and compressor cooling options. Specify accessories provided and service schedules for maintenance.
4. Upgrade to 04th channel alongwith specialized 04-channel rf probe.
5. Spectral libraries/databases for small molecule and metabolite identification and software for statistical chemometric analysis of NMR data.
6. Digital oxygen sensor for NMR hall.
7. Stainless steel (nonmagnetic) Ladder for insertion of samples.

Terms & Conditions

Only Part A will be considered for finding the L1. To qualify in the technical bidding process, it is mandatory for the vendors to give a proper quote for all the items mentioned in Part A. The responsibility of providing this information and adhering to this condition lies with the vendor only.

Items mentioned in Part B are optional items to be quoted by the vendors and depending on the fund availability the Institute may consider placing an order for the optional items.

The Institute may place two purchase orders simultaneously, after finding the L1: First PO (purchase order) will consist of an order solely related to items of Part A after finding the L1. The second PO (purchase order) will consist of an order related to optional items of Part B, (after finding the L1) if any, depending on the fund availability.

All other terms and conditions of Institute & GOI as per rules will apply.

The Institute reserves all rights.

A) IMORTANT NOTES:-

I. **This is a domestic Tender according to the DPIIT Order dated 15/07/2017 and subsequent amendements to the order for Public Procurement Preference & PROVISION FOR LOCAL SUPPLIERS TOWARDS PREFERENCE TO MAKE IN INDIA.**

II. **The online updated Price BOQ is in INR format.**

III. **The Online bids should be submitted directly by the original manufacturer/supplier, If quotation is submitted/filled by any representative/agent/dealer then they must upload a authority certificate from the principal company.**

IV. **All MSME/NSIC/Startup Units shall be considered as per provisions/rules prescribed by Govt of India.**

V. **Auto-extension of last date for E-Tenders has been activated by CPP Portal which has participation 2 bids or less.**

B) SUBMISSION OF TENDER

I. All bid/ tender documents are to be uploaded online at Central Public Procurement portal i.e. **https://eprocure.gov.in/eprocure/app** only and in the designated cover/ part on the website against tender ID. Tenders/ bids shall be accepted only through online mode and no manual submission of the same shall be entertained except tender fee and EMD. Late tenders will not be accepted.

II. The online bids shall be opened at the office of the Assistant Registrar (P&S), IISER Mohali, on above given date and time. If the tender opening date happens to be on a holiday or non-working day due to any other valid reason, the tender opening process will be attended on the next working day at same time and place. IISER Mohali will not be responsible for any error like missing of schedule data while downloading by the Bidder.

III. The bidder shall upload the tender documents duly filled in and stamped by the authorized signatory on each and every page. Tender not submitted/uploaded in the prescribed form and as per the tender terms and conditions shall be liable for rejection.

IV. The bidder shall upload scanned copy of the PAN Card, GST number duly signed and stamped. **Also bidders applying against 'MSME/NSIC Certificate" issued by appropriate Authority, should ensure that the certificate attached is relevant to the area of service/supply. For example, If the tender is for "supply & installation of Desktop"** ***the certificate should be issued for activity/area of "Computer supply and services activities etc" otherwise bid will be REJECTED without notice.***

V. E-procurement system ensures locking on the scheduled date and time. The system will not accept any bid after the scheduled date and time of submission of bid.

A) INSTRUCTIONS

1. The Online bids should be submitted directly by the original manufacturer/supplier, If quotation is submitted/filled by any representative/agent/dealer then they must upload a authority certificate from the principal company for quoting the price otherwise such quotation will be rejected.

2. The quantity mentioned in this inquiry is and shall be deemed to be only approximate and will not in any manner be binding on the Institute. Before the deadline for submission of the online bid, IISER Mohali reserves the right to modify the tender document terms and conditions. Such amendment/modification will be notified on website against said tender ID.

3. The rates offered should be FOR Chandigarh/Mohali in case of firms situated outside Chandigarh/Mohali, and free delivery at the Institute premises in case of local firms. Supplier from outside India should mention the Ex-works/FOB/FCA/CIF/CIP price clearly. Conditional tenders will be summarily rejected.

4. In case of Ex-godown terms the amount of packaging forwarding freight etc. should clearly be indicated

by percentage or lump sum amount. Institute has policy not to make any advance payments towards any purchase, Letter of credit can be opened if required.

5. THE INSTITUTE IS EXEMPTED FROM CUSTOM DUTY under notification no- TU/V/RG/-CDE(1062)/201 CUSTOM DT.30.08.2016.

6. Tax: This Institute is not exempted from the payment of GST. The current rate (i.e. percentage of GST should be clearly indicated included or excluded) wherever chargeable. Please also provide/upload the copy of PAN card, GST number duly self-attested.

7. Concessional GST is applicable for all the items purchased for Research labs vide Ministry of Finance, notification no. 45/22017 dated 14.11.2017 and 47/2017 dated 14.11.2017.

8. Bidder/s quoting in currency other than **Indian Rupee (INR)** should explicitly mention the currency in which tender quoted wherever applicable in Technical Bid along the tender documents.

9. The delivery period should be specifically stated. Earlier delivery will be preferred.

10. The firms are requested to provide/upload detailed description and specifications together with the detailed drawings, printed leaflets and literature of the article quoted. The name of the manufactures and country of manufacture should also invariably be stated. In the absence of these particulars, the quotation is liable for rejection.

11. Validity of offer: 90 days. The warranty period after satisfactory installation should be mentioned and firm should replace all manufacturing defect parts/ whole item under warranty without any extra cost including clearance, freight, taxes. Security deposit/ Bank Performance Guarantee @ 3% of the value of supply order, in terms of *Ministry of Finance, DoE, GOI, OM. No. F.9/42020-PPD dated 12-11-2020 and* as per norms may be sought from the firms.

12. The right to reject all or any of the quotation and to split up the requirements for itemized L-1 or relax any or all the above conditions without assigning any reason is reserved by the IISER Mohali. For any corrigendum and addendum pleasebe checked the website https://eprocure.gov.in/eprocure/app and http:/www.iisermohali.ac.in

13. Disputes, if any, shall be subject to jurisdiction in the court of Mohali only.

–sd-

Assistant Registrar (P&S)

ANNEXURE-I

Bid Securing Declaration Form

Date:_____ E-Tender No. _____ E-Tender ID_____

To (insert complete name and address of the purchaser)
I/We. The undersigned, declare that:

I/We understand that, according to your conditions, bids must be supported by a Bid Securing Declaration.

I/We accept that I/We may be disqualified from bidding for any contract with you for a period of one year from the date of notification if I am /We are in a breach of any obligation under the bid conditions, because I/We

a) have withdrawn/modified/amended, impairs or derogates from the tender, my/our Bid during the period of bid validity specified in the form of Bid; or
b) having been notified of the acceptance of our Bid by the purchaser during the period of bid validity (i) fail or reuse to execute the contract, if required, or (ii) fail or refuse to furnish the Performance Security, in accordance with the Instructions to Bidders. I/We understand this Bid Securing Declaration shall cease to be valid if I am/we are not the successful Bidder, upon the earlier of (i) the receipt of your notification of the name of the successful Bidder; or (ii) thirty days after the expiration of the validity of my/our Bid.

Signed: (insert signature of person whose name and capacity are shown)
in the capacity of (insert legal capacity of person signing the Bid Securing Declaration)

Name: (insert complete name of person signing he Bid Securing Declaration)
Duly authorized to sign the bid for an on behalf of (insert complete name of Bidder)

Dated on _____ day of _____ (insert date of signing)
Corporate Seal (where appropriate)

(Note: In case of a Joint Venture, the Bid Securing Declaration must be in the name of all partners to the Joint Venture that submits the bid)

PS: *Furnish the above in original stationary/letter head with signed and sealed.*