

INDIAN ASSOCIATION FOR THE CULTIVATION OF SCIENCE

2A & 2B , Raja S.C. Mullick Road, Jadavpur, Kolkata-700032

NIT No. : IACS/IC/SGD/2022-23/67

Date: 31.01/2023

Sealed tender in two bids system (technical bid and price bid) is invited from bonafide, resourceful and eligible manufacturer/exclusive distributor/vendors for “**X band CW-Electron Spin Resonance (ESR) Spectrometer**”

Part-I (Technical Bid) of the tender should contain technical specifications in detail as well as commercial terms and conditions. Part-II (Price Bid) should clearly indicate group-wise price, if needed, as mentioned in the technical bid. The Technical Bid and Price Bid are to be submitted in separately sealed envelopes, distinctly marked accordingly and both to be put inside another envelop, that should be sealed and superscribed with tender notice no. and due date. The bidders may submit bids duly signed in their own letterheads.

Completed tender bids should reach the office of the **Registrar, Indian Association for the Cultivation of Science (IACS), 2A & 2B Raja S. C. Mullick Road, Jadavpur, Kolkata-700032** on or before the scheduled date and time specified below:

Tender Notice No.	NIT No. IACS/IC/SGD/2022-23/67 Date: 31.01.2023
Last date and time of submitting tender	27 th Feb, 2023 12:30 p.m.
Pre-bid meeting(date, time & place) to discuss technical specification	10 th Feb, 2023 1:30-2:30 pm, Room 1, 2 nd floor, ERU building, IACS
Date and time of opening tender (Technical Bids)	28 st Feb, 2023 1:30 pm
Place of opening tender	Room 1, 2 nd floor, ERU building, IACS
Date and time of opening of Price Bid	The Price Bids of the bidders qualifying the technical bid will only be opened, the date of which will be intimated to the short-listed bidders at their email addresses. The rest of the bids will be rejected.
Contact	Email: icsgd@iacs.res.in Tel.+91 33 2473 4971 [Ext.1376]

The technical bids will be opened first to judge/evaluate the technical specifications of the said instrument and thereafter the price bids of only technically qualified bidders will be opened.

Technical Bid Evaluation: The Technical Bids will be evaluated in the presence of the representatives of intending bidders who will be able to clarify technical aspects of their bids, if any, required by the Technical Evaluation Team.

Opening of price-bid: The Price Bids of the bidders qualifying the technical bid will only be opened, the date of which will be intimated to the short-listed bidders at their email addresses. The rest of the bids will be rejected.

Please note that IACS will not provide any accommodation or reimburse any expenses to any of the bidders for attending opening of technical bid.

Quotations received incomplete or beyond the stipulated time will be summarily rejected.

Bidders should submit their past experience for supplying and successful installation of similar units to other research Institutes/Universities/other organizations in India and abroad. Please provide documentary proofs of such successful installation and supportive documents that the instruments are running successfully.

1. TECHNICAL BID

The technical bid should contain technical specifications and should be kept in a separate sealed envelope duly superscribed as 'TECHNICAL BID' on the outer cover of the envelope as already detailed above. **It should be clearly mentioned on the envelope as "Technical Specification for X band CW-Electron Spin Resonance (ESR) Spectrometer".**

Sl. No.	
1	Magnet • <i>Electromagnet with linearity better than 0.1% and high stability along with high performance Power Supply unit</i> • Minimum field strength of 0.65 T • Pole diameter: 150 mm at pole root • Pole gap: 60 mm • Maximum current: 30 A • Field homogeneity: 5×10^{-6} /cm³ (at approx. 0.33 T); 33 mG. The system should be able to have a good levels of uniformity.
2	ESR Spectrometer system :- • <i>Operating frequency:9000MHz</i> • <i>Microwave power output 200 mW to 0.1 μW (63 dB). The system should be able to change power continuously.</i> • <i>Phase shift range: 400^o</i> • <i>Phase shift setting resolution: 0.1 degree or better</i> • <i>Microwave oscillator: Gunn diode oscillator. The ESR system should be with smooth (no noise) and high power oscillator.</i> • <i>Detection method: Homodyne method, reflection-type diode Detection.</i> • <i>Data Channel :- 2. The ESR system should be able to capture the first and second harmonics at the same time.</i> • <i>Modulation Coil :- Internal. The system should be able to use an internal modulation method to uniformly and efficiently modulate the entire sample.</i> • <i>Frequency stability: 1×10^{-6} or better (at AFC ON).</i> • <i>Auto Gain :- The ESR system should be able to acquire signals up to 16 times the original scale. Useful for tracking signals whose intensity is lower.</i> • <i>G value correction :- The offered ESR system should be able to determine the g value from frequency information and Mn signal with 5-digit accuracy (organic radical).</i> • <i>Simulation :- Both Isotropic and Anisotropic Simulation should be possible with the Software.</i>
3	Variable Temperature Unit • Comprehensive Liquid N₂ based VT Cryostat (113 K or lower to 473 K or higher) with liq. N₂ storage capacity 30L or more
4	Resonance Cavity • Universal cylindrical resonance cavity with unloaded Q value 18,000 or

	<i>more along with reference marker and compatible for variable temperature</i>
6	Chiller • <i>High performance Chiller for Magnet</i> • <i>Temperature stability: ± 0.5 °C</i>
7	Accessories • <i>Integrated PC and printer.</i>
8	Data storage /software • <i>Workstation with (Windows/Linux) compatible OS</i> • <i>Simulation software for ESR analysis, data processing and simulation of the experimental data</i>
9	Warranty <i>One year from the date of successful installation + 2 years extended</i>
10	Training <i>Complete training course/workshop for usage and maintenance of the complete systemdetailed application</i>
11	Future Update <i>System should have the capability to expand to EDMR; ENDOR and Time Resolved ESR or other possible future updates.</i>

2) Installation Installation and demonstration to be done by supplier

Warranty: Minimum 1 year while 3 years extendable warranty is preferred.

Servicing facility within India is a must while service engineer stationed at Kolkata will be preferred.

A list of other places where the instrument has been installed should also be provided. The vendor should have at least three previous successful installations of EPR spectrometer in the country.

A compliance table (see below) must be prepared and submitted along with the technical bid.

Sr. No	Tender specification	Your offered instrument specification	Extent of compliance

Tender will not be accepted if the technical compliance chart is NOT provided following the above format.

2. PRICE BID

The financial bid indicating (item-wise) price for the item(s) mentioned in the technical bid should be kept in a separate sealed envelope duly super scribed as 'PRICE BID' on the outer cover of the envelop as already detailed above. Price bids of only technically qualified bidders will be opened and they will be intimated the date and time of the opening of price bid at their e-mail ids. Rest of the bidders will stand rejected.

PRICE: Price to be quoted on CIF Kolkata and also FOB basis.

3. BID SECURITY:

a. An Account payee Demand Draft of any of the Commercial Banks for Rs. 3,00,000 (Rupees three lakh only) drawn in favour of "Indian Association for the Cultivation of Science (State Bank of India, Jadavpur University Branch, A/C No. 11079699211, IFSC: SBIN000093, MICR Code: 700002048)" is to be furnished by the bidders alongwith Technical Bid, except Micro and Small Enterprises (MSEs) as defined in MSE Procurement Policy issued by Department of Micro, Small and Medium Enterprises (MSME) or are registered with the Central Purchase Organisation or the concerned Ministry or Department.

Alternatively, the bidder shall have the option to furnish EMD in the form of Fixed Deposit Receipt, Banker's Cheque or Bank Guarantee from any of the Commercial Banks. The Bid-Security should have at least 90 (ninety) days validity period beyond the final bid validity period.

In case of non-award of the work the Bid Security money would be returned to the unsuccessful Bidders.

4. PERFORMANCE SECURITY:

An Account Payee Demand Draft on any nationalized bank of India or Bank Guarantee (BG) of any Indian Nationalized Bank preferably located at Kolkata of 10% of the order value in the name of "Indian Association for the Cultivation of Science" is to be furnished by the successful bidder as Performance security. Performance security money should remain valid for a period of 60 days beyond the date of completion of all contractual obligations of the supplier including warranty obligations. Bid security money or EMD will be refunded to successful bidder on receipt of the Performance security money.

5. TERMS OF PAYMENT:

Payment will be made through irrevocable Letter of Credit in two installments. 90% of the money will be released on submission of shipping of documents. Remaining 10% will be released after successful installation of the instrument.

6. GENERAL INSTRUCTIONS:

1. Validity of tender: Tender submitted should remain valid for at least six months from the date of opening the tender. Validity beyond six months from the date of opening of the tender shall be lapsed by mutual consent.
2. The tender should accompany a compliance chart.
3. Incomplete and conditional tenders as well as tenders received after the due date will be summarily rejected without assigning any reasons thereof.
4. At any time prior to the bid due date, IACS may, for any reason, whether at its own initiative or in response to a clarification requested by a prospective bidder during pre-bid meeting, modify the bidding documents. The amendment(s) will be notified on the institute website. Prospective bidders are advised to occasionally visit the website (www.iacs.res.in/tender) for any amendment.
5. Installation/Demonstration/Application training at site: Installation & user training at IACS, free of cost by the supplier.
6. Service facility: In India, preferably Kolkata, supplier should mention their details of service setup and man powers who are responsible for after sales support. Response time should be within 24 hrs.

7. The model number, make and a printed literature of the product should be submitted positively.
8. Proposed delivery schedule should be mentioned clearly.
9. Manufacturers / exclusive distributors / vendors should have history of supplying this type of instruments to this or other scientific organizations. Availability of a list in this regard would be preferred.
10. Authorized dealership certificate should be provided in case of principal manufacturing company is not quoting directly.
11. Guarantee certificate, users manuals etc. are to be handed over to the user after successful commissioning of the system.
12. In the event of date being declared a closed holiday for purchaser's office, the due date for submission of bids and opening of the technical bids will be the following working day at the appointed time.
13. In case of any dispute, the decision of IACS authority shall be final and binding on the bidders.
14. In case of any litigation the matter will be dealt within the jurisdiction of the High Court of Calcutta only
15. For any clarification regarding technical specifications, information etc., please send your queries to Abhishek Dey (icad@iacs.res.in).
16. The authority of IACS reserves the right to reject any or all of the tenders received without assigning any reason thereof.

Registrar

N O T E :

- 1) **WARRANTY :** Minimum 1 year while 3 years or more is preferred (as per requirement of the indenter)
- 2) **PRICE:** Price to be quoted on CIF Kolkata and FOB basis or as per the requirement of the indenter (this may be modified as per the requirement of the indenter)
- 3) **BID SECURITY:** Amount of bid security may be accepted in the range between two percent to five percent of the estimated value of the goods to be procured.
- 4) **PERFORMANCE SECURITY:** Performance Security may be accepted for an amount of five to ten percent of the value of the contract as specified in the bid documents.
- 3) **TERMS OF PAYMENT :** As per nature of the transaction
- 4) **GENERAL INSTRUCTIONS :-**

Item No.- 5 : Installation/Demonstration/Application training at site : This may be modified as per the requirement of the indenter/technical committee.

Item No. - 6 : Service facility : This may be changed by the indenter as per requirement.