

**BHARATHIAR UNIVERSITY : COIMBATORE 641 046**

**TENDER NOTICE**

**No. C7/CPEPA/Physics/24575/2017**

**Date: 13.12.2017**

Sealed Tenders are invited by the Registrar, Bharathiar University, Coimbatore 641 046 up to 3.00 P.M on **11.01.2018 (Separate Technical bid and Commercial bid)** from the **ISO Certified firms for the supply and installation of “Amplifier for Pump-Probe Transient Absorption Spectroscopy setup “** for the CPEPA Program, Dept.of Physics .

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| <p><b>TENDER COST: Rs. 15,750/- EMD: Rs.1,70,000/-</b><br/><b>LAST DATE FOR SUBMISSION OF TENDERS: 11 01.2018 up to 3.00P.M.</b><br/><b>TECHNICAL BIDS OPENING DATE : 11.01.2018 at 4.00 P.M.</b></p> |
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For Tender document and details of Terms & Conditions can be downloaded from our website [www.b-u.ac.in](http://www.b-u.ac.in) and [www.tenders.tn.gov.in](http://www.tenders.tn.gov.in) between 14.12.2017 to 11.01.2018.

**REGISTRAR i/c**  
**BHARATHIAR UNIVERSITY**

**BHARATHIAR UNIVERSITY –COIMBATORE 641 046**

**TENDER CONDITIONS AND INSTRUCTIONS FOR THE SUPPLY AND  
INSTALLATION OF AMPLIFIER FOR PUMP-PROBE TRANSIENT ABSORPTION  
SPECTROSCOPY SETUP**

1. Sealed Tenders will be received by the **Registrar, Bharathiar University from the ISO Certified firms up to 3.00 p.m. on 11.01.2018** for the **supply and installation of Amplifier for Pump-Probe Transient Absorption Spectroscopy setup for the CPEPA Program, Dept.of Physics as specified** in the schedule (Appendix).
2. Tender should be addressed to the Registrar, Bharathiar University and should be only in sealed covers by Registered post/ or in person. Tenders received in ordinary covers without seal will not be considered.
3. The tender cover with **Ref.No. should be superscribed as “Tender for the supply of Amplifier for Pump-Probe Transient Absorption Spectroscopy for the CPEPA Program, Dept.of Physics** .The covers received without such superscription will be rejected summarily. All covers containing the tender should be sealed. Separate sealed covers should be used for technical and price bid and please be superscribed on the cover
4. **Technical Bids only will be opened on 11.01.2018 at 4.00 p.m. by the Registrar or his/her nominee in the presence of the tenderers** or their representatives who may be present at the time of opening. The representatives of the tendering firms who are attending during opening of the tenders should bring a letter of authorization from the tendering firms, which they represent to identify their bonafied.
5. Each tender shall be accompanied with the requisite Tender Cost of **Rs.15,750/- and EMD of Rs.1,70,000/-** in the form of DD drawn in one of the Nationalised Banks in the name of “Registrar, Bharathiar University” payable at Coimbatore. Cheques and Bank Guarantees will not be accepted. EMD will not carry any interest.
  - i) The tender submitted without the earnest money deposit be summarily rejected provided that any category of tenderers specifically exempted by the Government from the payment of earnest money deposit /tender cost necessary certificate should be enclosed for exemption otherwise it will be liable for rejection.
6. Tenders received late will be returned to the tenderer unopened.
6. Any quote where the financial bid is included in the technical bid will be summarily rejected.

8. a) The tender should contain particulars like the name and address of the Tenderers, Net rate including GST , transportation, delivery, installation and commissioning of the above equipments .
- b) The rates will be kept firm for 180 days from the date of the opening of the Tenders in acceptance.
- c) The rate should be quoted both in words and figures with detailed technical specification , make and model Any scoring or overwriting should be attested by the tenders with full signature. The rate quoted should be firm and should not be subject to any variation clauses.
- d) University shall not pay increase in duties, taxes and surcharges on account of any revision by the Government at the time of supply and installation.
- f) Supply shall be as per the specifications mentioned in the Appendix and according at the time of supply .
- g) The tender should quote as per the tender specifications of the equipment only. Option shall be given separately.
- h) The tender form (Annexure I & II) should be completed in all respects. Wherever the information is not relevant to your bid, the space should be appropriately filled with 'NA or NIL'. No space shall be left blank. All the crucial documents should be signed and enclosed otherwise the tenders are likely to be rejected.
- i) If the given space is insufficient to give required information, additional sheets may be added. Each such additional page shall be numbered consecutively and shall bear our tender reference number and signature of bidder or his/her authorized agent.

9. **Faxed bids are liable to be rejected.**

10. The tender shall be valid for a maximum period of 180 days from the date of opening. If the tender validity is less than 180 days the tender will be rejected as non-responsive tender. Tenderer should not withdraw his tender after the tenders are opened. In case the tender is withdrawn after it opened, the EMD will be forfeited and black listed.
11. The EMD of the unsuccessful tenders will be refunded immediately after the tenders are disposed of by the competent authority.
12. Successful tenderer shall execute an agreement for the fulfillment of contract in the stamp paper in the model form. The conditions stipulated in the form should be strictly adhered to and violation of any of the conditions will entail termination of the contract without prejudice to be right of the University and to recover any consequential loss from the successful tenderer.
13. Successful tenderer shall remit a **Security deposit 6.5% to the order value** Security Deposit will be refunded at the end of warranty period subject to the satisfaction of the University. The EMD may be adjusted towards Security deposit payable.
14. If the successful tenderer failed to act up to the tender or backs out when his tender accepted, security deposit will also be forfeited to department.

- 15.a)The material should be supplied strictly in accordance with the specifications given in the Appendix and should fulfill the successful tests carried out by the Competent Authority of the University. The supply and installation should be made as per the delivery schedule to be sent by the Registrar along with the exact location of the work. The guarantee period shall take effect from the date of installation . Successful tenderer shall be liable to change any defective part during the warranty period. In either case the damaged or defective items will have to be taken back at supplier's cost and risk.
- 16.The commissioning and installation should be completed within the stipulated period mentioned in the supply order. If the supply is not made within the period, the supply order will be cancelled and the EMD & Security deposit will be forfeited.
- 17 The materials are to be guaranteed for at least one year of installation and commissioning against manufacturing defect and bad workmanship. The warranty period specified will commence from the date of installation .
18. The materials quoted shall conform to ISI standard. The make of the materials shall be mentioned in the tender.
19. Any dispute arising out of this contract shall be settled only at the court having jurisdiction of Coimbatore.
20. The authority competent to accept the tender reserves the right to reject or accept any tender without assigning any reasons thereof.
21. Regarding the acceptance of supply with reference to the specification and quality of materials supplied, the decision of Registrar shall be final.
22. **Price:**
- a) **For Imported:** The Price shall be quoted in Currency for CIF Chennai /CIP Chennai / FOR Coimbatore. If the equipment is imported but quoted in INR please quote the basic price inclusive of duties/taxes if applicable as per Govt.rules. If necessary, the required documents will be provided along with the supply order .
- b) **For Indigenous** : Quote the price in INR inclusive of GST and warranty. separate charges for warranty will not be considered at any cost , should mention the valid GST Registration/ Numbers along with the copy of the registration Certificate.
- 22** The University is registered with DSIR and eligible for exemption towards customs duty as per the Government Notification No: 51/ 96 Customs Dt.23.7.1996.and

Central excise duty as per Government Notification No.10/97 Central Excise Dt: 1.3.1997.

**23 The customs duty after providing duty exemption certificates if applicable as per customs tariff for the said equipments shall be paid by the local supplier /Clearing agent at the time of Customs clearance which will be reimbursed subject to the condition on submission of original customs bills to the University after delivering the equipment to the department concerned. Necessary documents will be provided after receipt of original invoice/Cargo Arrival/Shipment notice from the Principal Supplier.**

**24. The Customs clearance , transportation and delivery charges up to the University has to be borne by the firm.**

**25. PAYMENT :**

a) If the quoted price in currency . The payment will be made by irrevocable Letter of Credit (LC) / advance FDD(only copy) in favor of the Principal Supplier /Currency Wire Transfer to the Principal Supplier only after supply and installation of the equipment .

Advance Currency Wire transfer is not applicable

**b)If** the quoted price in INR, the payment will be made after supply and installation. No advance payment will be made .

**26.Loss or Damage:** External damages or shortages that are prima facie the results of rough handling in transit or due to defective packing will be intimated within a fortnight from the date of receipt of the material, Internal defects, damages of any internal parts that cannot ordinary be exhibited on superficial inspection though due to bad handling in transit or defective packing will be intimated within two months from the date of receipt of the stores. In either case the damaged or defective stores will have to be taken back at supplier's cost and risk.

**27Guarantee:** The Supplier shall undertake to repair free of charge or replace any defective part of the equipment supplied due to defective or faulty design or bad workmanship during a period of three years from the date of commissioning of the equipment.

**28 Leaflets and Descriptive Literature:** Full descriptive particulars and manuals of the equipment offered should accompany the tender. Information regarding the country of manufacturer or origin of materials in the manufacture of articles should be furnished.

**29. Tests:** Manufacturer's certificate for the routine tests specified in the BSS of the test issue or as per manufacturer's standard practice should be forwarded in duplicate. The materials will be rejected, if the test results are not satisfactory.

30 **.Penalty Clause:** The delivery should be guaranteed by you under the penalty clause mentioned hereunder:

“Should delivery be delayed by strike, lockouts, fire accidents or any cause whatsoever, beyond the reasonable control of the contractor and whether such delay or impediment occurs before or after the time or extended time for dispatch or completion, a reasonable extension time shall be granted.

If the contractor fails in due performance of this contract, within the time fixed by the contractor the extension thereof, the contractor is liable at discretion of the purchaser to a penalty of 4% per month of the contract value of such portion only of materials as cannot, in consequence of the delay, be used during each month between the appointed or extended time as the case may be and the actual time of acceptance, and such penalty shall be in full satisfaction of the contractor's liability for the delay but shall no in any case exceed 25 % of the contract value of such portion of the materials.

**31. Additional Documents required for pre bid qualification**

- ISO Certificate
- Number of years standing in the business.
- Average turnover in the last three years.
- Backup facility for the warranty period .
- GST Number along with the copy of the registration Certificate
- PAN Number along with the copy of PAN
- Company Profile.
- Copy of the supply order and installation record at reputed institutions / organizations and sufficient service back-up in Tamil Nadu / South India
- Customer Satisfaction Certificate from any of the institutions/organization is to be attached with the Technical Bid And Price Bid.
- Any other relevant details in support of the items specified.

**32. Only bids of prequalified bidders will be considered for technical evaluation. The bidders who are disqualified in the Technical evaluation, the Commercial bid will not be considered.**

**33. Price bid evaluation will be done for imported inclusive of the customs duty /Customs clearance and other charges. For indigenous inclusive of all GST, warranty and other charges etc.**

34. The University will not offer any explanation to those tenderers whose technical bid has not been found acceptable by the technical evaluation committee .

35. Tenders will be considered only from the ISO certified Manufacturers / authorized distributors with sound technical and financial capabilities.

36. The University's general rules for the supply of the materials and works will apply on this purchase also.

37. Training at University Campus at free of charge .

**38. Tender shall be submitted with brief description, make and model number, technical specifications etc. along with catalogue/manual.**

39. No communications from any tenderer adding to/adhering or explaining any terms of the tender will be considered prior to the submission or after opening of the tenders by the competent authority

40. In case of any modifications in specifications/terms and conditions/ any clarifications to the bid document it will be hosted in our website only and bidders are requested to log on to our website from time to time regularly for any amendment and no separate corrigendum will be issued in this regard.
41. The tenderer must not be blacklisted by Central Government, State Government or Government of Corporations or any organization in India. A certificate or undertaking to this effect must be submitted.
42. The tender is submitted subject to and agreeing the above conditions duly attested and certified.

**SIGNATURE OF THE TENDERER**

**SCHEDULE****TECHNICAL SPECIFICATIONS****Amplifier for Pump-Probe Transient Absorption Spectroscopy setup Qty-1No.****Pump Probe Transient Absorption Spectroscopy setup:****Technical specifications**

A single-box laser amplifier consisting of a tunable Ti-Sapphire oscillator and a high energy pump laser with necessary optics, second harmonic generation kit, vibration isolation table and cleanbooth enclosure, is required for pump probe transient absorption spectroscopy setup. The laser amplifier must be suitable for pumping the optical parametric amplifier (OPA) and should be able to deliver ultra-short femtosecond laser pulses for doing transient absorption measurements. Provisions must be available to take out the 80MHz Ti-Sapphireoscillator output.

**1. The specifications of the amplifier must be:**

- Wavelength : 800nm
- Pulse energy :  $\geq 5\text{mJ}$
- Rep Rate : 1kHz
- Pulse duration :  $< 35\text{fs}$
- Beam quality :  $M^2 < 1.3$
- Energy stability :  $< 0.5\%$  rms ( over 24 hrs)
- Polarization : linear , horizontal
- Contrast Ratio :  $> 1000: 1$  Pre pulse,  $100: 1$  post pulse
- Beam Diameter ( $1/e^2$ ) :  $< 12\text{mm}$

**2. Specifications of the mode locked Ti-Sapphire oscillator:**

- Average power :  $\geq 300\text{mW}$  @ 800nm
- RMS noise :  $< 0.1\%$  (10Hz-10MHz)
- Power Stability :  $< \pm 0.5\%$  over 2 hours period
- Polarization : Horizontal
- Repetition Rate : 80 MHz
- Beam Diameter :  $< 1.5\text{mm}$
- Bandwidth :  $> 65\text{nm}$

**3. Specifications for Q-switched Diode Pumped Solid State Pump laser:**

- Wavelength : 527nm
- Pulse Repetition Rate : 1kHz
- Pulse Energy : 30mJ @ 1kHz
- Pulse Energy Stability :  $< 0.5\%$  rms
- $M^2$  :  $< 25$



#### 4. Essential features required for the system

- The amplifier must have a 527 nm pump laser fully integrated on the same thermally stabilized platform into the amplifier enclosure. This is to provide a thermally stable system, to minimize beam walking, and to minimize sensitivity to the changing environmental conditions such as air flow, humidity and temperature fluctuations
- The 527 nm pump laser must be based on diode-pumped technology to ensure long-term shot-to-shot pulse energy stability, and long lifetime.
- The pump laser should be Accelerated Stress Screening tested for high quality and reliability
- The Amplifier system should be an Integrated ONE BOX Amplifier system with all sub-systems included inside it. (80MHz Ti-S oscillator for seeding, 527nm kHz pump laser, regenerative amplifier, Stretcher & Compressor).
- All sub-systems (oscillator, kHz pump, and regenerative amplifier, Stretcher/Compressor) should be temperature stabilized via water-cooling.
- The internal temperature required for Amplifier operation should be  $20\pm 2$  °C and the amplifier should produce stable output by withstanding the external temperature variation of  $\geq \pm 5$  °C.
- Appropriate chillers must be quoted to maintain the internal temperature of the amplifier at  $20\pm 2$  °C.
- Necessary stability data for the amplifier output should be enclosed.
- The Stretcher/compressor assembly should be “O-ring” sealed for enhanced stability and reliability to prevent contamination and for better grating lifetime.
- Amplifier system should be fully tested in Accelerated Stress Screening chamber (including oscillator, pump, regenerative amplifier and stretcher/compressor) for optimum reliability and robustness
- The system should be Water-only cooled Ti:Sapphire rod in regenerative amplifier (no TEC) for enhanced, simplicity, maintainability and reliability.
- Regenerative Amplifier should be based on Slab rod design to provide better heat transfer and thermal lensing characteristics.
- All regen optics should be mounted directly to temp-stabilized baseplate (no mounting posts located off sub-plate) for maximum stability.
- The system must be able to show long term pulse length stability without recourse to active compensation systems which could conflict with data collection and are therefore not acceptable.

- The amplifier must include a Signal Delay generator to allow complete control of the injection timing, ejection timing, and synchronization to the seed oscillator, and amplifier repetition rate.
- Timing of injection and ejection pulses must be adjustable with steps as small as 250pSec and with <250pSec timing jitter. The signal delay generator must be compatible with LabView software drivers and also should have provisions of Multichannels with options of Universal delay adjustment. This is to allow easy control of other experiments with the amplifier timings.
- The Amplifier system should be well proven with life time testing and stress screening. Necessary supportive data should be enclosed along with the quotation.
- The system should include Laptops wherever required. All cables required for the system should be included in the quotation.

## **5. Accessories Required for the system**

### **I. Harmonic generation with SHG crystal for the amplifier**

- SHG crystals for generating 400 nm laser beam
- Should be Compatible with the 35 fs Ti- Sapphire amplifiers
- Should have High-damage-threshold, high-conversion efficiency of min.35%
- wavelength separation mirrors should be included

### **II. Power meter and sensor for the system:**

- Capable of measuring average power output of oscillator, amplifier
- Wavelength range: ~ 300nanometer -11 micrometer
- Power range: few mW to 50 Watt

### **III. Necessary beam routing optics:**

- Include beamsplitters (70: 30 and 65:35) for splitting the amplified laser output for the SHG and also for the Pump Probe Spectrometer setup with simultaneous provisions to use the residual amplifier beams for other applications
- Include required HR mirrors having good damage threshold to withstand amplifier pulses should be included

#### **IV. Vibration isolation Optical Tables**

- Table of Dimension: 2400 x 1200 x 800 mm (L x B x H) or nearest – 2 nos
- Thickness of Table top required: 300mm or nearest – 1 set
- Dynamic Deflection coefficient :  $1.10 \times 10^{-3}$
- Relative Motion: 0.5nm
- Compliance : 37nm/N
- Natural frequency : 110Hz
- Suitable Air compressor ( 2nos) should be quoted along with the system
- Optionally Quote for joiner of dimension 1200 x 300mm (SS)

##### **a. Working Surface should have the following specifications**

- Top Skin should have 4.0 mm thickness 430 series ferro magnetic SS plate, smooth sanded finish
- Side Walls should have 2.0mm thickness carbon steel plate with damped wood composite, vinyl covered finish
- Bottom Skin should be 4mm thickness carbon steel plate epoxy painted finish
- Core: Plated steel Honeycomb (0.25mm foil,  $3.2\text{cm}^2$  cell size)
- Surface Flatness: +/- 0.1mm over 600mm square
- Mounting Holes: Metric – M6-1.0 holes on 25mm grid, 37.5mm borders.
- Hole/Core Sealing: Easy clean cylindrical cup (25mm deep)
- Damping: Broadband Standard Damping

##### **b. Pneumatic Support System should have the following or nearest specification:**

- Load capacity: ~ 1600-1800 Kg
- Height: 500 mm
- Leveling: Auto Leveling by 3 Automatic Leveling valve
- Leveling Repeatability: <1.2 mm

##### **c. Performance Specifications**

- 1st Resonant Frequency
  - Vertical :  $\leq 1.2$  Hz
  - Horizontal :  $\leq 1.5$  Hz
- Roll off rate (or Isolation efficiency) at 5 Hz
  - vertical : over 85 %
  - Horizontal : over 75 %
- Roll off rate (or Isolation efficiency) at 10 Hz
  - vertical : over 95 %
  - Horizontal : over 85 %

**V A Suitable Cleanbooth enclosure of Class 10,000 or better around optical Table should have the below specifications.**

- Dimension :(4800L x 3600W x 2300H mm)
- Clean booth should have Air circulators, air filters installed on the roof of the clean booth and the booth is covered with anti-static vinyl curtains to maintain positive pressures ,and furthermore, the vinyl curtains block outside air to keep the filtered and clean air
- Should have frames of Aluminum profile and side walls of antistatic vinyl curtains
- Air velocity should be  $\leq 0.35$ m/sec
- Clean booth should have min. 3 FFU filters of efficiency DOP 0.3 $\mu$ m 99.97% over
- Noise level should be less than 58dB
- Should have lighting of more than 500LUX

**6. Two years warranty should be provided for the entire system with accessories and also quote AMC for three years as optional**

**Notes and Important terms:**

- ❖ Authorization letter should be furnished along with the quotation.
- ❖ Compliance statement should be enclosed with the quotation.
- ❖ The installation should be done at free of cost. Training to operate the instrument must be given to our research scholars at free of cost.
- ❖ The technical details of the quoted instrument must be available on the official website of the principal.
- ❖ The vendor should have a minimum of three or more installations in working condition in India, for the quoted model. Please provide the list of end users with contact details.
- ❖ Trained Service engineers in India (with suitable certificates) for the quoted model must be readily available to resolve the technical problems.
- ❖ A list scientific publications in reputed journals using the quoted model should be enclosed along with the quotation.

**SIGNATURE OF THE TENDERER**

**TECHNICAL BID**

**ANNEXURE – I**

**Tender reference No:** \_\_\_\_\_

1. Name and address of Bidder
2. The details of EMD  
Amount of EMD Rs. \_\_\_\_\_, DD No. \_\_\_\_\_ dt  
Bank: \_\_\_\_\_
3. Due Date of bid :
4. The bid shall remain valid for acceptance for 180 days, from the date of tender opening.
5. Schedule of Requirements:

| Sl. No                              | Brief description of stores |  |   |  | Qty Required | Qty Offered | Delivery                               | Unit price (Rs)          | Total Cost (Rs) |
|-------------------------------------|-----------------------------|--|---|--|--------------|-------------|--|--------------------------|-----------------|
|                                     |                             |  |   |  |              |             | At Bharathiar University<br>Coimbatore | To be filled in Annex:II |                 |
| (i)                                 | GST                         |  | % |  | -            | -           |  |                          |                 |
| (ii)                                | Wararanty 5years-           |  |   |  |              |             |  |                          |                 |
| (ii)                                | Other charges, if any       |  |   |  | -            | -           |  |                          |                 |
| <b>Grand total cost in Rs.</b>      |                             |  |   |  |              |             |  |                          |                 |
| Total cost (in words) _____ Rupees. |                             |  |   |  |              |             |  |                          |                 |

**Note: (1) All columns must be filled up.**

**(2) Adhering to the format given above is a pre- requisite for considering your bid.**

**(3) Please indicate applicability.**

I/certify that I/We have completely read and understood and agree to all the terms & conditions given in Part II.

Date :

Signature of Bidder :

Office Stamp

Signing as :

:Mobile No.

Fax No.

Name in block letters :  
e mail

**ANNEXURE: II**

**PRICE BID**

**Tender reference No: \_\_\_\_\_**

1. Name and address of Bidder
2. The details of EMD  
Amount of EMD Rs. \_\_\_\_\_, DD No. \_\_\_\_\_ dt  
Bank: \_\_\_\_\_
3. Due Date of bid :
4. The bid shall remain valid for acceptance for 180 days, from the date of tender opening.
5. Rates for items given in Techno-commercial offer at Schedule of requirements are as follows:

| SINo                                | Brief description of stores |  |   | QtyOffered | Delivery                                  | Unit price | Total Cost |
|-------------------------------------|-----------------------------|--|---|------------|---|------------|------------|
|                                     |                             |  |   |            | At Bharathiar<br>University<br>Coimbatore |            |            |
| (i)                                 | GST                         |  | % | -          | -   |            |            |
| (ii)                                | Other charges, if any       |  |   | -          | -   |            |            |
| <b>Grand total</b>                  |                             |  |   |            |   |            |            |
| Total cost (in words) _____ Rupees. |                             |  |   |            |   |            |            |

- NOTE :(1) All columns must be filled up.**  
**(2) Adhering to the format given above is a pre- requisite for considering your bid.**  
**(3) Please indicate applicability.**

Date :  
Office Stamp

Signature of Bidder :  
Signing as :  
Name in block letters :  
e mail

Tele No. Fax No.

**LETTER OF ACCEPTANCE**

**To**

**THE REGISTRAR  
BHARATHIAR UNIVERSITY  
COIMBATORE – 641 046**

**I/We agree to furnish required supplies /services as detailed in the Tender schedule or such portions thereof as you may specify in the Acceptance of Tender in accordance with the General Terms and Conditions governing the contract / supply order enclosed hereto duly accepted on receipt of the order for the same.**

**I /We agree to hold this offer open until\_\_\_\_\_and shall be bound to supply / omission /erect the equipment and dispatch the same within the specified period.**

**I/ We agree to supply and commission /erect the equipment and complete the whole of the work and hand over to the purchaser within the period of weeks. From the date of receipt of intimation from you regarding acceptance of this tender / receipt of supply order.**

**Signature of the bidder  
With office stamp  
Name & Address**

**Station  
Date:**