



INDIAN INSTITUTE OF TECHNOLOGY MADRAS Chennai 600 036  
DEPARTMENT OF PHYSICS

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Prof. P. B. Sunil Kumar  
Head, Department of Physics

Dated : Oct 1, 2014

Our Ref. No. PHY/2014/018/Stores

**Due Date: 28.10.2014  
Before 2.00 p. m**

Dear Sirs,

On behalf of the Indian Institute of Technology Madras, I invite, tender for setting up of a femtosecond oscillator-amplifier system at IITM.

### DESCRIPTION

## FEMTOSECOND OSCILLATOR-AMPLIFIER SYSTEM AT IITM

**LAST DATE for receipt of Tender : 28.10.2014 before 2.00 p.m**

**Submission of Tender:** The quotations should be submitted in sealed cover with **Two Cover System** i. e.,

#### **COVER 1: MAY BE SUPERSCRIBED AS TECHNICAL BID**

1. Technical details regarding equipment for femtosecond oscillator-amplifier system (without price) with specifications as in the attachment, experience with femtosecond laser systems, accreditations (if any), list of your customers/clients with systems installed therein and your turnover details.

#### **COVER 2: MAY BE SUPERSCRIBED AS FINANCIAL BID**

2. Regarding pricing details and any other concessions to be offered to IIT Madras (being a Central Government Institution)

With the superscription on the left hand side

### **TENDER FOR FEMTOSECOND SYSTEM AT IITM**

due on **28.10.2014 at 2.00 p.m.** The tender outer cover should be sent to:

**Prof. P. B. SUNIL KUMAR,  
HEAD, DEPARTMENT OF PHYSICS,  
INDIAN INSTITUTE OF TECHNOLOGY MADRAS,  
CHENNAI-600 036**

Right is reserved to ignore any tender which fails to comply with the above instructions.

**Tender should be sent either by REGISTERED POST ACKNOWLEDGEMENT DUE OR THROUGH MESSENGER.** If the Tender is sent through Messenger, the same has to be dropped in the **TENDER BOX marked Stores & Purchase** kept for this purpose in the **REGISTRAR'S OFFICE (1st Floor of Administrative Building) before 2.00 PM on due date 28.10.2014.**

**If it is by post (Registered Post or Speed post only) the same should reach before 2.00 p.m. i.e on the last date 28.10.2014 otherwise it will be summarily rejected.**

**THE INSTITUTE SHALL NOT BE RESPONSIBLE FOR THE LATE RECEIPT OF TENDER ON ACCOUNT OF POSTAL OR ANY OTHER DELAY. THE TENDER BOX WILL BE CLOSED EXACTLY AT 2 P.M. ON 28.10.2014 SHARP.**

**B.**

**1. Earnest Money Deposit (EMD)**

☞ EMD of Rs. 5,00,000/- is required to be paid along with the tender in the form of Demand draft from any nationalized Bank.

Demand Draft may be drawn in favour of “**The Registrar, IIT Madras**” payable at Chennai.

☞ **The EMD should be enclosed along with the tender 1 cover.**

- This Earnest Money will be returned to the unsuccessful tenderers after the final disposal of the tenders. **EMD will not carry any interest.**
- The EMD will be retained in the case of successful tenderers till the rate contract period.
- EMD will not be waived under any circumstances.
- EMD will be forfeited in the case of non-execution of the order within the due date.

**Non submission of EMD will lead to rejection of tender at the opening stage itself.**

**2. Preparation of Tender:**

- a) The Schedule to the Tender form should be returned intact whether you are quoting for any item or not. Pages should not be detached and when items are not being tendered for, the corresponding space should be defaced by some such words as 'not quoting'.
- b) In the event of space on the schedule form being insufficient for the required purpose, you have to submit the rates in the letter head of your company clearly mentioning S. No. and other relevant particulars. Each such additional page must be numbered consecutively, bear the Tender Number and be fully signed by you. In such cases reference to the additional pages must be made in the tender form.
- c) If any modification of the schedule is considered necessary, you should communicate the same by means of a separate letter sent with the Tender within due date.
- d) You should quote your product as per our specification requirements by mentioning our requirements and your offer side by side and the rate should be in total as per our requirements. We will not make any calculation if you have mentioned the rates of items separately.
- e) In case, your product specification does not exactly match our requirements, you may quote for your product, but you must highlight the deviation in specification point by point.

**3. Signing of Tender:**

The Tender is liable to be rejected if complete information is not given therein or if the particulars and date (if any) asked for in the schedule to the Tender are not fully filled in or not duly signed/authenticated. Specific attention is drawn to the delivery dates and important conditions referred to in Annexure enclosed herewith. **Each page of the tender documents required to be signed and bears the official Lab seal of the tenderers.**

**4. Period for which the offer will remain open:**

- (i). Firms tendering should note the period for which it is desired that their offers should remain open for acceptance. If the firms are unable to keep their offers open for the specified period they should specifically state the period for which their offers are being considered provided, however, the day up to which the offer is to remain open being declared closed holiday for the Indian Institute of Technology Madras, the offer shall remain open for acceptance till the next working day.
- (ii). Quotations qualified by such vague and indefinite expressions such as 'subject to immediate acceptance', 'subject to prior sale' will not be considered.

## TERMS AND CONDITIONS FOR THE FINANCIAL QUOTE

### Prices:

i) Please state the price quoted by you as CIF / FOB. Prices should be stated in US dollars.

**No price revision, changes in the specification already given or changes in the terms and conditions etc. during the period is acceptable.**

### ii) **Validity**

Should be mentioned clearly.

### iii) **Customs duty**

IIT is eligible for concessional customs duty. The necessary certificate will be issued for clearance.

### iv) **Discount**

May be stated in clear terms/percentage.

### v) **Warranty**

May be stated clearly.

vi) **Payment terms** – may be stated clearly

vii) **Delivery period** – may be stated clearly

You must give an undertaking to the effect that “in case of downward price movements during the period, the firm promises to pass on the advantage to IIT-Madras.”

viii) **Annual Maintenance Contract** – may be stated clearly.

ix) **Any other details** – separate sheet may be attached.

**We are eligible for concessional VAT/CST on submission of concessional certificate. The Institute is not authorized to issue C or D forms of Sales tax certificate. Hence VAT/CST should be charged at concessional rates as applicable to educational and research institutions run without profit motives, for which necessary certificate will be issued on demand at the time of payment, wherever applicable.**

### x) **Conditions of Contract**

Printed or copied or such terms and conditions of the tenderer not appearing in the body of the tender will not be considered as forming part of the tender. Tenderer should quote on the basis of the conditions referred to in this invitation to tender. In case these terms and conditions are not acceptable to the tenderer, he should specifically state the deviation(s) therefrom in the body of the tender.

### **6. Right of Acceptance:**

The Indian Institute of Technology Madras, Chennai-600 036 does not pledge itself to accepting the whole or any part of the Tender or portion of the quantity offered.

### **7. Communication of Acceptance:**

Acceptance by the Purchaser will be communicated by Post, if required, and the Company's acceptance communicated to us formally in writing. In case where acceptance is communicated by E-mail or letter by Speed Post, the formal acceptance of Tender will be forwarded to you as soon as possible but the instructions contained in the E-mail or Speed Post letter should be accepted upon immediately.

**8. The Institute shall not be responsible for the late receipt of tender documents due to postal and or any other delay.**

Yours faithfully,

**Head, Department of Physics**

**Annexure**  
**INSTRUCTIONS & SPECIAL CONDITIONS**  
 (To be returned by Tenderer along with the Tender duly signed)

|   |   |
|---|---|
| <b>IMPORTANT CONDITIONS:</b>  |   |
| The following instructions are to be followed meticulously FAILING WHICH YOUR OFFER WILL NOT BE CONSIDERED: |   |
| 1.  | Quotations should be submitted in Sealed Cover (sealed with wax or equivalent).   |
| 2.  | Delivery Period<br>Non-delivery of items will lead to cancellation of Purchase Order without any notice. In addition, action may be taken for removing them from our mailing list in respect of future enquiry.   |
| 3.  | You must give an undertaking to the effect that “in case of downward price movements during the period, the firm promises to pass on the advantage to IIT Madras”.  |
| 4.  | <b>CONDITIONS OF CONTRACT:</b><br>Printed or copied or such terms and conditions of the tenderer, not appearing in the body of the tender will not be considered as forming part of the tender. Tenderer should quote on the basis of the conditions referred to in this tender and these tender papers. In case these terms and conditions are not acceptable to the tenderer, he should specifically state the deviation(s) there from in the body of the tender.   |
| 5.  | <b>PRICE:</b><br>i) Prices must be in US dollars.<br>ii) The unit prices should be for the same unit as indicated in the Schedule to tender enquiry and not for any other unit.<br>iii) Discount, if any, should be indicated prominently.<br>iv) Offers should normally be on firm price basis. If the tenderer cannot quote firm prices, variable prices with a ceiling have to be indicated. If the variation price be lower than the price stated in the quotation, the purchaser should have the benefit of lower price. |
| 6.  | <b>PAYMENT:</b><br>i) Payment will be made on by Letter of Credit (L/C) after the entire satisfaction of the Head, Department of Physics, Indian Institute of Technology – Madras. Account number, Bank codes, SWIFT code and other details for opening the L/C may be provided for this purpose.<br>ii) No Advance Payment will be made.   |
| 7.  | <b>JURISDICTION:</b> All questions, disputes, or differences arising under, out of or in connection with the contract, if concluded, shall be subject to the exclusive jurisdiction at the place from which the acceptance of Tender is issued.   |

**ACKNOWLEDGMENT**

It is hereby acknowledged that we have gone through all the points listed under “Instructions & Special Conditions” outlined above, and those in the accompanying note on “Important Conditions”, and we agree to abide by them under the penalty of permanent disqualification for Tender participation and for related penal actions for non-abidance of the conditions.

**SIGNATURE OF TENDERER ALONG WITH  
SEAL OF THE COMPANY WITH DATE**

## Specifications for Compact high-energy femtosecond oscillator-amplifier system

### 1.(a). Amplifier specifications

|                                      |  |
|--------------------------------------|--|
| Central wavelength (nm)              | 800 (value in the range 780 - 820 nm is acceptable)                |
| Pulse width (fs) (FWHM)              | < 35 fs or less  |
| Repetition rate (kHz)                | 1 kHz or higher  |
| Pulse energy (mJ) at 1 kHz           | 6 mJ or higher at 1 kHz  |
| Pre-pulse contrast ratio             | > 1000: 1  |
| Post-pulse contrast ratio            | > 100:1  |
| Avg. power                           | 6 W or higher  |
| Power stability (rms) (over 24 hrs)  | < 1.5 %  |
| Spatial mode                         | TEM00  |
| Polarization                         | linear, horizontal   |
| Beam quality, M-squared              | < 1.5  |
| Beam diameter (1/e-squared)          | 25 mm or less  |
| Beam point stability (microrad, rms) | < 10 microrad  |
| Cooling (for amplifier crystal)      | Thermo-electric or chilled-water (not liquid N2 cooling)           |
| Pump laser for amplifier             | suitable pump laser for amplifier should be included in the system |

### b) Oscillator specifications

|                                     |   |
|-------------------------------------|---|
| Amplification suitability           | suitable to seed <35fs, 1kHz, 6 W amplifier             |
| Bandwidth (nm) (FWHM)               | suitable b/w to pump 35fs amplifier or approx 60nm      |
| Power (mW) (at maximum bandwidth)   | > 300 mW  |
| Power stability (%) (rms)           | 1 % rms or better                                       |
| Repetition Rate                     | > 70 MHz  |
| RMS noise (%)                       | < 0.2 % or better                                       |
| M-squared (X and Y)                 | < 1.5   |
| Beam divergence (mrad) (full angle) | < 2 mrad  |
| Beam dia (mm) (1/e-squared)         | 1-3 mm  |
| Polarization                        | Linear  |
| Spatial mode                        | TEM 00  |
| Operation                           | computer-control and full-automation                    |
| Pump laser integration              | appropriate pump laser to be integrated with oscillator |

### c) Special notes

|                         |   |
|-------------------------|---|
| Precision chiller       | suitable for use with the systems above should be included              |
| Temperature tolerance   | should allow for variation of at least +/- 3 centigrade                 |
| Obsolescence            | product should be supported with spares for the next 10 years at least. |
| Installation            | include costs of installation   |
| Laser mounting platform | list the price for vibration-free laser mounting platforms              |

Default warranty (years) 2 years excluding the down time (for the whole system)

**d) Service**

Min. number of service personnel at least 3 trained by the principals (with their names, experience and letter from principals)

Min. yrs of service of Indian counterparts 5 yrs. - with femtosecond oscillator-amplifier laser systems

Minimum number of femtosecond laser systems sold and serviced in India to government /educational & research institutions by the local distributor / vendor At least 3

User reference list should be enclosed required

**2. Accessories (OPTIONAL)**

3rd year warranty 1 year (to be quoted separately).

Uninterrupted power Please specify the parameters for the uninterrupted power supply.

Clean laser environment please quote for both international and local options separately

Other accessories Quote for any other accessories such as beam alignment optics, power meter etc.

**The cost of the accessories and 3rd year warranty will not be included in the financial comparison.**