



भारत सरकार/ GOVERNMENT OF INDIA  
अंतरिक्ष विभाग/ DEPARTMENT OF SPACE  
भारतीय अंतरिक्ष विज्ञान एवं प्रौद्योगिकी संस्थान/INDIAN INSTITUTE OF SPACE SCIENCE & TECHNOLOGY  
क्रय एवं भंडार विभाग / PURCHASE & STORES DEPARTMENT  
वलियमला पीओ., तिरुवनंतपुरम 695 547/ VALIAMALA P.O, THIRUVANANTHAPURAM 695 547,  
केरल, भारत/ KERALA, INDIA  
Ph No.:0471-2568451/ Tele Fax:0471-2568406/ e-mail : pso@iist.ac.in

**निविदा आमंत्रण / INVITATION TO TENDER**

**Date : 18.07.2016**

Tender Due on : **05.09.2016 at 14.00 Hrs**  
Tender opening on: **06.09.2016 at 10.30 Hrs**

Dear Sirs,

**Separate Sealed TWO PART tenders** are invited from accredited manufacturers / suppliers / agents for the supply of the following equipments:

Sl. No.	Tender No.	Item Description	Qty/ Nos.	Cost of Tender (Rs.)
1.	2016003319	<b>Dye Laser with Frequency Conversion Unit and Accessories.</b>  <b>Specifications :</b> <ul style="list-style-type: none"><li>Tunable dye laser with frequency conversion unit that provides a wavelength range of 210 nm to 750 nm with a line-width less than or equal to 0.08 cm<sup>-1</sup>.</li><li>There should be not be any gap in wavelength range from 280 nm to 320 nm</li><li>The frequency conversion unit should be equipped with auto tracking and control for automatic wavelength scanning</li><li>The dye laser should be compatible with both 532 nm and 355 nm pumping source for most efficient energy conversion and excellent output beam quality</li><li>The dye laser should have maximum threshold pump energies of 400 mJ/pulse @ 532 nm and 150 mJ/pulse @ 355 nm respectively</li><li>The dye laser should be highly compatible with the already available Nd-YAG pump laser source with the following specifications:<ul style="list-style-type: none"><li>Repetition rate: 10 HZ</li><li>Pump energies: 400 mJ @ 532 nm, 150 mJ @ 355 nm and 80 mJ @ 266 nm</li><li>Beam Diameter: 9 mm</li><li>Line width less than 1.4 cm<sup>-1</sup></li><li>Maximum deviation from best fit Gaussian: less than 30</li></ul></li></ul>	1 No.	500+VAT @5% (525/-)

		<p>% when measured between FWHM points</p> <ul style="list-style-type: none"> <li>▪ Pulse width of 5-8 ns</li> <li>▪ Pulse-to-pulse energy stability: less than +/-5%</li> <li>▪ Beam divergence less than 0.5 milli rad</li> <li>▪ Beam pointing stability less than 100 microrad</li> </ul> <ul style="list-style-type: none"> <li>• The conversion efficiencies should be 25% or more @ 550 nm and 20% or more @ 400 nm</li> <li>• With the frequency conversion unit the output energy at 220 nm should be more than or equal to 4 mJ/pulse and at 300 nm should be more than or equal to 16 mJ/pulse.</li> <li>• The absolute accuracy should be less than or equal to 0.03 nm</li> <li>• The wavelength reproducibility should be less than or equal to 0.005 nm.</li> <li>• Provision of modular and independent dye circulators and dye cells for pre-amplifier and amplifier for each dye corresponding to the generation of wavelength in the range of 350nm-750 nm is required.</li> <li>• An essential requirement is the provision of computer controlled operation for the dye laser.</li> <li>• Installation and training should be provided onsite.</li> <li>• After sale services: Vendor should provide details of the Indian agent or equivalent counterpart and also the details of the service engineers for maintenance support. There should be immediate availability of authorized service support from the manufacturer/vendor.</li> <li>• Warranty period services and annual maintenance charges should be clearly mentioned in the quotation.</li> </ul>		
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### Compliance Sheet for Dye Laser with Frequency Conversion Unit and Accessories.

Sr. No	Specification	Compliance
1.	Tunable dye laser with frequency conversion unit that provides a wavelength range of 210 nm to 750 nm with a line-width less than or equal to $0.08 \text{ cm}^{-1}$ .	
2.	There should be not be any gap in wavelength range from 280 nm to 320 nm	
3.	The frequency conversion unit should be equipped with auto tracking and control for automatic wavelength scanning	
4.	The dye laser should be compatible with both 532 nm and 355 nm pumping source for most efficient energy conversion and excellent output beam quality	
5.	The dye laser should have maximum threshold pump energies of 400 mJ/pulse @ 532 nm and 150 mJ/pulse @ 355 nm respectively	
6.	<p>The dye laser should be highly compatible with the already available Nd-YAG pump laser source with the following specifications:</p> <ul style="list-style-type: none"> <li>▪ Repetition rate: 10 HZ</li> <li>▪ Pump energies: 400 mJ @ 532 nm, 150 mJ @ 355 nm and 80 mJ @ 266 nm</li> <li>▪ Beam Diameter: 9 mm</li> <li>▪ Line width less than <math>1.4 \text{ cm}^{-1}</math></li> <li>▪ Maximum deviation from best fit Gaussian: less than 30 % when measured between FWHM points</li> <li>▪ Pulse width of 5-8 ns</li> <li>▪ Pulse-to-pulse energy stability: less than +/-5%</li> <li>▪ Beam divergence less than 0.5 milli rad</li> <li>▪ Beam pointing stability less than 100 microrad</li> </ul>	
7.	<ul style="list-style-type: none"> <li>• The conversion efficiencies should be 25% or more @ 550 nm and 20% or more @ 400 nm</li> </ul>	
8.	<ul style="list-style-type: none"> <li>• With the frequency conversion unit the output energy at 220 nm should be more than or equal to 4 mJ/pulse and at 300 nm should be more than or equal to 16 mJ/pulse.</li> </ul>	
9.	<ul style="list-style-type: none"> <li>• The absolute accuracy should be less than or equal to 0.03 nm</li> </ul>	
10.	<ul style="list-style-type: none"> <li>• The wavelength reproducibility should be less than or equal to 0.005 nm.</li> </ul>	
11.	<ul style="list-style-type: none"> <li>• Provision of modular and independent dye circulators and dye cells for pre-amplifier and amplifier for each dye corresponding to the generation of wavelength in the range of 350nm-750 nm is required.</li> </ul>	
12.	<ul style="list-style-type: none"> <li>• An essential requirement is the provision of computer controlled operation for the dye laser</li> </ul>	
13.	<ul style="list-style-type: none"> <li>• Installation and training should be provided onsite</li> </ul>	
14.	<ul style="list-style-type: none"> <li>• After sale services: Vendor should provide details of the Indian agent or equivalent counterpart and also the details of the service engineers for maintenance support. There should be immediate availability of authorized service support from the manufacturer/vendor</li> </ul>	
15.	Warranty period services and annual maintenance charges should be clearly mentioned in the quotation	

## **Commercial terms and Conditions Tender No. 2016003319 dated 18.07.2016**

### **1. General Requirements:**

- 1.1 Detailed Catalogue/ Data Sheet of the quoted item.
- 1.2 Clientele List
- 1.3 Performance Letter from the Clients.
- 1.4 ***Detailed Compliance Sheets for Dye Laser with Frequency conversion unit and accessories are to be attached along with Technical Bids for evaluation. Without detailed Compliance sheet, your offer shall summarily reject.***

### **2. SPECIAL INSTRUCTIONS TO TENDERERS**

- 2.1 **The bidder is required to submit quotation for the entire scope in TWO PART viz, Technical and commercial bid and price bid separately. The first cover shall contain the technical and commercial details along with the format of price quotation without the price superscribing in the cover “Technical and Commercial-Tender No. 2016003319 Due on 05.09.2016. The second cover shall contain the prices superscribing in the cover price bid- Tender No. 2016003319 Due on 05.09.2016. All the covers to be sealed and insert in another cover superscribing the Tender No. 2016003319 Due on 05.09.2016 and submit immediately but not later than the due date mentioned against each tender. If the tender is received after the due date and time, the same shall be summarily rejected.**
- 2.2 **The cost of tender stated against each tender shall be submitted *along with Technical & Commercial bid by Demand Draft* drawn in favour of the Sr. Accounts Officer, IIST and payable at State Bank of India, Valiamala Trivandrum-695 547. *In case the Demand Draft is not enclosed with the quotation, the bid shall be summarily rejected.***
- 2.3 **Test certificate:** Wherever required, test certificates should be essential.
- 2.4 **Payment:** Our normal payment term shall be E-Transfer / within 30 days after supply/installation and acceptance for imports and indigenous respectively.
- 2.5 **The installation and commissioning of equipment to be done at our campus, Valiamala, Thiruvananthapuram-695 547. All pre-requisites such as foundation drawing, grouting and any consumables needed for carrying out the installation, if applicable, shall be separately mentioned in the technical bid.**
- 2.6 **Delivery terms shall be Ex-works/FOB/FCA for imports and FOR, Valiamala for indigenous.**

- 2.7 For import cargoes, the purchase order shall be drawn directly to the foreign supplier through agents in India. We have our own freight forwarder and customs clearance at Trivandrum shall be done by us.
- 2.8 All duties and taxes, if applicable shall be quoted separately.
- 2.10 Accreditation documents such as current income tax/sales tax clearance certificate, clientele list with previous experience in the similar lines of supply must be provided with documentary evidence), Performance Certificate, authorization for import, after sales support in India etc. shall be explained in detail with proof.
- 2.11 **Guarantee & Replacement:**
- a) The contractor shall guarantee that the stores supplied shall comply fully with the specifications laid down, for material, workmanship and performance.
  - b) For a period of twelve (12) months after the acceptance of the stores, if any defects are discovered therein or any defects therein found to have developed under proper use, arising from faulty stores design or workmanship, contractor shall remedy such defects at his own cost provided he is called upon to do so within a period of 14 months from the date of acceptance thereof by the Purchaser who shall state in writing in what respect the stores or any part thereof are faulty.
- 2.12 **Earnest Money Deposit (EMD):-** Interest free EMD to ensure the earnestness of the vendor in the participation of the procurement process to the tune of **Rs.1, 00,000/-** by Demand Draft drawn in favour of the Sr. Accounts Officer, IIST, Valiamala, Trivandrum may be enclosed with Technical & Commercial bid sealed cover. The EMD will be refunded to the unsuccessful tenderers within 30 days after placement of Purchase Order.
- 2.13 **Security Deposit:-** Interest free Security Deposit @ 10% of the value of Purchase Order shall be payable by successful vendor for satisfactory execution of the Purchase Order.
- 2.14 **Performance Bank Guarantee** equivalent to 10% of order value shall be submitted by the Vendor for Warranty obligation.
- 2.15 **Liquidated Damages:** The period of completion indicated shall be the essence of the contract. In the event of delayed date of completion, the liquidated damages @ 0.5% per week or part thereof subject to a maximum of 10% of the contract value shall be recovered.
- 2.16 **Force Majeure:** During the continuance of the contract, should a part or whole of the items covered by this contract be delayed in delivery due to reasons of force majeure condition which shall include lockouts, strikes, riots, civil commotions, fire, flood, windstorm, explosion, labour disturbance, act of any Govt. or any

agency, judicial action, sabotage act of civil disobedience, act of public enemy, technical failure, accidents, acts of God and war, stoppage of deliveries by Govt. etc, each party undertakes to advise the other as soon as it becomes a way of the circumstance of such force majeure, so that action under the provisions of this contract can be mutually reviewed and agreed upon between contractor and IIST. If the force majeure condition extended over a period of six months, both the parties of the contract shall mutually discussed and arrived at an agreement for the continuation/ termination of the contract forthwith.

- 2.17 **Arbitration:** Dispute if any shall be settled mutually, failing which, it will be referred to a one-man arbitrator appointed by Director, IIST in accordance with the Arbitration and Conciliation Act, 1996 and any alteration/modifications thereof, whose decision shall be final and binding on both the parties
- 2.18 **After Sales Service Support:** The stock availability of spares and consumables for a minimum period of 5 years for up keeping the equipment shall be guaranteed to avoid obsolescence of systems.
- 2.19 **AMC:** The charges towards Annual Maintenance Contract (Comprehensive/Non- Comprehensive) beyond the normal warranty period may be quoted separately as option.
- 2.20 IIST reserves the right to either accept/reject any tender/s without assigning any reason/s whatsoever.
- 2.21 **Separate quotations shall be submitted for each tender along with the tender fee by demand draft.**
3. **Terms & Conditions of Tender Form No. DOS PM:20, Form No. DOS PM:22 & Form No. DOS PM:23 as per attachment.**

Sd/-  
(M.B Subash Chandran)  
Sr. Purchase & Stores Officer  
For and on behalf of Director, IIST