

**Under Certificate of Posting**

Department of Physics, Indian Institute of Technology  
IIT.P.O. Madras-600 036

PHY	2012	061	STORES
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11.3.2013

**ITEM Name: Pulsed Nd:YAG Laser**

Dear Sir,

DUE DATE& TIME: 2.04.2013, 5pm

1. The vendors have to send ***sealed Technical bid and price bid separately.***
2. Quotation are invited in duplicate for the various items shown below/overleaf/ enclosed list.
3. The quotations duly sealed and superscribed on the envelope with the reference No. and due date, should be addressed to the undersigned so as to reach him on or before the due date stipulated above.
4. The quotations should be valid for sixty days from the due date and the period of delivery required should also be clearly indicated.
5. If the item is under DGS &D RATE CONTRACT, RC No. and the price must be mentioned. It may be also please be indicated whether the supply can be made direct to us at the Rate Contract price. If so, please send copy of the RC ( Please note that we are not Direct Demanding Officers)
6. Relevant literature pertaining to the items quoted with full specifications ( and drawing, if any) should be sent along with the Quotations, wherever applicable. Samples if called for, should be submitted free of charges, and collected back at the supplier's expenses.
7. **Local Firms** : Quotations should be for free delivery to this Institute. If Quotations are for Ex-godown . delivery charges should be indicated separately.
8. **Firms outside Chennai:** Quotations should be for F.O.R. Chennai. If F.O.R. consignor station, freight charges by passenger train/lorry transport must be indicated. If Ex-godown, packing, forwarding and freight charges must be indicated.
9. The rate of Sales/General Taxes and the percentage of such other taxes legally leviable and intended to be claimed should be distinctly shown along with the price quoted. Where this is not done, no claim, for Sales/General taxes will be admitted at any stage and on any ground whatsoever. **The taxes leviable should take into consideration that we are entitled to have concessional Sales Tax applicable to non-Government Educational Institutions run with no profit motive for which a concession. Sales tax Certificate will be issued at the time of final settlement of the bill.**
10. Goods should be supplied carriage paid and insured.
11. Goods shall not be supplied without an official supply order.
12. Payment: Every attempt will be made to make payment within 30 days from the date of receipt of bill/acceptance of goods, whichever is later.
13. Separately sealed technical and price bids are to be sent to the following address:  
Dr. G. Aravind, (Project co-ordinator)  
Assistant Professor,  
Dept. of Physics,  
IIT Madras, Adyar, Chennai - 600036 .

The required technical specifications and terms & conditions are enclosed.

Yours Sincerely



**CO-ORDINATOR**  
[Dr. G. Aravind]



S.No.	Items	Specifications for Pulsed Nd:YAG laser
1.	Type	Q-switched
2.	Harmonics required	2 <sup>nd</sup> , 3 <sup>rd</sup> & 4 <sup>th</sup> harmonics with necessary crystals and optics should be supplied. The fundamental beam should also be available for external use.
3.	Harmonic selection mechanism	System to include Temperature Stabilized and sealed harmonic generators if possible all the crystals in a single box with thermal control.
4.	Pulse Energy	=850mJ@1064nm ≈ 425mJ@532nm ≥ 225mJ@355nm ≥ 100mJ@266nm
5.	Pulse duration	3-10 ns
6.	Repetition rate	10Hz with programmable Q-Switch for variable rep rate from 1-10Hz, and Single Shot Operation should be given
7.	Divergence	≤ 0.5mrad
8.	Energy stability	+/- 2.5% or better @ 1064nm
9.	Temporal jitter	≤ 0.5ns
10.	Beam diameter	≤ 10mm
11.	Beam pointing stability	<+/- 50 μrads
12.	Lamp life time	≥ 30,000,000 Pulses. A maximum of two flash lamps should be used. Flash lamp should be easily replaced without further alignment
13.	Energy Attenuation	Energy attenuation should be achieved by adjusting the Q-delay in the machine and not by adjusting the laser lamp voltage
14.	Interface	RS-232 with interface cables & cards etc.
15.	Line width	<1cm <sup>-1</sup> @1064 nm

16.	Power supply to control-consol	Stabilized power supply 220VAC @50Hz , Single phase is preferred
17.	Cooling system	Self contained heat exchanger with air cooling is highly preferred or else, Necessary chiller system should be provided.
18.		<b><i>There should be a possibility to integrate the Nd:YAG system with an OPO system in the future.</i></b>

### **Terms and Conditions**

1. The laser should be installed by the technical persons of the vendors/principals.
2. Proper demonstration/training should be given to the students at the time of installation.
3. The turning optics and other necessary accessories should be provided.
4. At least 3 sets of safety glasses (in the range of 200-900nm) should be provided.
5. User list of the lasers should be provided.
6. Two flash lamps to be supplied in addition to two flash lamps installed in the laser.
7. Minimum two years of comprehensive warranty.
8. Should provide contact details of your customers who bought this LASER from you in the last 2 years.
9. Cost, Insurance, Chennai Airport should be mentioned.