#### Under Certificate of Posting

# Department of Physics, Indian Institute of Technology

# IIT.P.O. Madras-600 036

Date : 21.1.2016

PHY	2015	012	STORES

Dear Sir,

Ref. No.

#### DUE DATE& TIME: 8.02.2016, 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 Exgodown, 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. Prahallad Padhan, (Principal Investigator) Associate Professor, Department of Physics, IIT Madras, Adyar, Chennai - 600036.

The required technical specifications and terms & conditions are enclosed.

Yours Sincerely,

Prohesterd Jacken CO-ORDINATOR [Dr. P. Padhan]

# INDIAN INSTITUTE OF TECHNOLOGY MADRAS

## **Cryogen Free Low Temperature Optical Cryostat**

- Cryostat operating temperature range : Variable temperature in the range of 6.5 K to 400 K sample platform temperature.
- Temperature stability: less than 10 mK peak to peak fluctuation, or better.
- Instrument should have design features to minimize sample drift of the sample stage as a function of temperature.
- Required cooling power: 1st Stage Capacity : 13.5 W @ 80 K or higher wattage.
  2nd Stage Capacity : 2.5 W @ 10 K or higher wattage.
- Air Cooled Single Phase 3.0 kW at 50 Hz compressor with full charge of highpurity Helium gas and operating Voltage: -200,220,230/240 V (+/- 5%) 50Hz.
- Provide interconnecting hoses and control cable of length 10 feet.
- Second stage sample mount with (1)High Temperature Calibrated (1.4 K 420 K) Cernox temperature sensor installed.
- Extended OFHC copper sample holder cold finger with heater 50 Ohm heater and (1)High Temperature Calibrated (1.4 K 420 K) Cernox temperature sensor installed.
- Sample space should be at least 10mm thick x 40 mm wide x 120 mm long (rectangular) for the minimum separation between the pole pieces of electromagnet.
- The numerical aperture should be at least 30 mm diameter with sample at center of sample space.
- Appropriate radiation shield to realize temperature stability and cooling power specified.
- Demountable optical first-stage radiation shield with (2) optical clear view holes and the demountable outer vacuum shroud optical window.
- Windows should be fused silica with AR coating 400 1000 nm.
- Demountable first-stage radiation shield without holes and outer vacuum shroud without window.
- (1) 12-pin electrical feedthroughs with mate (For heaters and sensors).
- At least 16 DC electrical connections run into the sample area besides what is needed for the control of the cryostat and diagnostics. (1) 16 pin feedthrough with mate.
- Provide a flange for (4) mini coax BNC feed through with mate and appropriate connection to the sample stage for the RF measurement upto 15 MHz.
- Provide detailed layout drawings of the optical cryostat.
- Provide require vacuum pumps and temperature controller for operation as an optional accessories.
- The cryostat should have (2) Spare blank feedthrough ports, reliable bellows style evacuation valve and vacuum shroud safety pressure relief.
- Provide coldhead over-temperature protection circuitry if any.
- No liquid or Gaseous Helium should be needed for the operation of the cryostat.

## **Terms and Conditions**

- 1. User list of this cryogen free closed cycle cryostat should be provided.
- 2. Minimum two years of comprehensive warranty.
- 3. Should provide contact details of your customers who bought this cryogen free closed cycle cryostat from you in the last 5 years.
- 4. Cost, Insurance, Chennai Airport should be mentioned.
- 5. Maximum education discount, if any should be offered.