

Ref No : PUR/IMP/GT/VSN/PM/21/2012-13.

March 18, 2013.

M/s.

Dear Sir/s,

The Director, Indian Institute of Astrophysics, Bangalore, invites Sealed Tenders Two bid system ( both Technical bid & Commercial bid) for the Import of “Highly polished Aluminum coated optical mirrors as per the specifications & RFP annexed. The terms and conditions may be noted from IIA Website and if you are in a position to quote for the supply in accordance with the requirements, please submit your quotation. The Tender documents and other details are available on IIA web site [www.iiap.res.in/tenders.htm](http://www.iiap.res.in/tenders.htm)

**The Tender bids must be in Foreign currency quote.** Your completed Tender bids both Technical and Commercial bid (**2 Bid system**) must reach our office on or before 09/04/2013 by 15 00 hrs. The bids must be in a separate Sealed envelopes duly superscribed with the name of the supply, Due Date and all the envelopes kept in a bid envelopes mentioning the supply, must reach this Office within the Due Date and time. The Technical bids (a) will be opened in the presence of bidders or their authorized representative of the Company by 15.30 hrs on 09/04/2013. The commercial bids will be opened only for those vendors quotes qualify in Technical evaluation, The opening of commercial bids date will be intimated later. Incomplete Bids are liable for rejection.

For any Technical clarifications you may contact during Office hours Shri Venkata Suresh Narra (Phone No.080 2254 1393) and for any commercial clarifications can contact Shri Y.K.Raja Iyengar, Purchase Officer (Phone No.22541244).

Thanking you,

Yours faithfully,

Y.K.Raja Iyengar  
Purchase Officer

**GLOBAL TENDER DOCUMENT No : PUR/IMP/GT/VSN/PM/21/2012-2013.  
DT : 18/03/2013.**

**TENDER FORM**

FROM:

TO

THE DIRECTOR

Indian Institute of Astrophysics,  
Bangalore - 560 034.

Sir,

I/We hereby offer to supply the Items/Equipment indicated below at the price hereunder quoted and agree to hold this office open till . I/We shall be bound to supply the items/Equipment hereby offered upon the issue of the Purchase Order communicating to the acceptance thereof on or before the expiry of the last mentioned date. You are at liberty to accept any one or more of the items such Items/Equipment. I/We not withstanding that the offer in this tender has not been accepted in whole, shall be bound to supply such items and such portion or portions of one or more of the items as may be specified in the said Purchase order communicating the acceptance.

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S No.	Description of the item(s)	Qty.	Unit	Rate	Dely.	Period
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1. Highly Polished Aluminum Coated optical mirrors as per - 44 Nos.  
the Technical specifications and RFP annexed.

- 1.Two bid system, both Technical bid and commercial / price bid -  
should be submitted separately)
- 2.IIA will provide Customs duty exemption certificate)
- 3.Tender bids should be Foreign currency quote )

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Place at which the Delivery is required : Indian Institute of Astrophysics, Bangalore -34

Date by which the supplies are required : 2- 3 months from the date of order.

2 I/We have understood the items of the tender annexed to the invitation to the Tender and have thoroughly examined the specifications/drawing and / or pattern quoted or referred to herein and / are fully aware of the nature of the items/ Equipment required and my / our offer is to supply the items/ Equipment strictly in accordance with the requirements subject to the terms and conditions contained in the Purchase order communicating the acceptance of this tender either in whole or in part.

Date :

Signature and Seal of Supplier

**Annexure - A**

**INSTRUCTIONS TO SUPPLIERS**

1. Tenders should be sent in a sealed and superscribe with both Technical bid and commercial bid in separate envelopes with mention of Tender Number date and date of opening. Only one Tender should be sent in each envelope.

2. Late and Delayed tender will not considered at all.
3. Duties, Taxes where legally leviable and intended to be claimed should distinctly shown separately in the Tender.
4. a) Your quotation should be valid for 90-120 days from the date of opening of Tender.  
b) Prices are required to be quoted according to the units indicated in the annexed tender form. When quotations are given in terms of units other than those specified in the Tender form, relationship between the two sets of units must be furnished.
5. a) All available Technical Literature(s), Catalogue(s) and other data in support of the specifications and details of the item(s) should be furnished along with the offer.  
b) Approximate net and gross weight of the items offered shall be indicated in your offer. If dimensional details are available the same should indicated in your offer.  
c) Air freight/sea freight charges up to IIA, Bangalore/ Bangalore Airport may be sent along with the offer.

**d) Specifications:**

Items / Equipment offered should strictly conform to our specifications. Deviation, if any should be clearly indicated by the Supplier in their quotation. The supplier should also indicate the Make / type No. of the stores offered and provide catalogue(s), Technical literature(s) and sample(s), wherever necessary along with the quotations. Test certificates wherever necessary should be forwarded along with the supplies. Whenever options are called for in our specifications, the Supplier should address all such options. Wherever specifically mentioned by us, the Supplier could suggest changes to specifications with appropriate response for the same.

1. Corrections, if any, must be attested. All amounts shall be indicated both in words as well as in figures. Where there is difference between amounts quoted in words and figures, amount quoted in words shall prevail.
2. The supplier should supply along with the tender, the Banking information for payment or any other purpose.
3. A complete set of instruction and operation manual should be supplied.
4. Final performance should be guaranteed.

**TERMS AND CONDITONS OF CONTRACT**

**1. DEFINITIONS:**

- a) The terms 'Purchaser' shall mean the Director, Indian Institute of Astrophysics, Bangalore - 560 034.

- b) The term 'Supplier' shall mean, the person, firm or company with whom or with which the order for the supply of Items / Equipment is placed.
- c) The terms 'Purchase Order' shall mean the communication signed on behalf of the Purchaser by an officer duly authorized intimating the acceptance on behalf the Purchaser on the terms and conditions mentioned or referred to in the said communications accepting the tender or offer of the supplier for supply of Items/Equipment.

2. **PRICES:**

The price may please be indicated on unit basis only.

**Duty Exemption:**

Please note that we may issue "Customs duty Exemption Certificate & Excise duty exemption certificate" under the Govt. of India notification No.51/96 & No.10/97 valid till 2016.

3. **GUARANTEE AND REPLACEMENT:**

The Supplier shall guarantee that the Items/Equipment supplied shall comply fully with the specifications laid down, for material workmanship and performance. The Guarantee should be for a period of one year minimum from the date of supply.

4. **PACKING, FORWARDING AND INSURANCE:**

The Contractor will be held responsible for the stores being sufficiently and properly packed for transport by air / Sea to withstand transit hazards ensure safe arrival at the destination. The packing and marking of packing shall be done by and at the expenses of the contractor. The Purchaser will not pay separately for transit insurance, all risks in transit being exclusively of the supplier and the Purchase shall pay only for such Items/Equipment as are actually received in good condition, in accordance with contract.

5. **TEST CERTIFICATE:**

Wherever required Test Certificate should be sent before dispatch of the items.

6. **ACCEPTANCE OF ITEMS / EQUIPMENT:**

a)It is expressly agreed that the acceptance of Items/Equipment, is subject to final approval by the Purchase, whose decision shall be final.

7. **DELIVERY PERIOD:**

Delivery is the essence of the contract. The supplier should adhere to delivery schedule as indicated in the Purchase order.

8. **EXTENSION OF DELIVERY TIME:**

As soon as it is apparent that Supplier dates cannot be adhered to, an application shall be sent by the Supplier to the Purchaser. If failure, on the part of the Supplier to deliver the Items/Equipment in proper time shall have arisen from any cause which the Purchaser may admit as reasonable ground for an extension of the time (and his decision shall be final he may allow such additional time as he considers it to be justified by the circumstances of the case). In case of Letter of Credit the banking charge for the LOC amendment will be on suppliers account.

9. **PAYMENT:**

Preference will be given to the supplier whose payment terms is on Site Draft or Credit basis.

10. **SECURITY FOR PAYMENT:**

Successful Supplier will have to furnish in the form of a Bank Guarantee or any other form as called for by the Purchase towards any payments before supply of items/equipment. In case of payment through Letter of Credit the Banking charges outside India and inside India will be on suppliers account.

11. IIA reserves the right to reject any or all the Tenders without assigning any reason.

Purchase Officer  
IIA, Bangalore - 34.

**Request For Proposal (RFP) for highly polished Al coated optical mirrors with different surface microroughness**

Name of the proposal:

Highly polished Al coated optical mirrors with different surface microroughness

Project under which the item to be procured:

Aditya-1

Table of Contents /index.

Introduction/background about the item.

Above mentioned items will be used for the experimental studies of near specular scatter from highly polished optical surfaces with different surface microroughness. These studies are important in order to understand the near specular scatter distribution from highly polished optical surfaces. These studies are very important for background estimation of VELC on board Aditya-1.

Technical specifications of the components with codes and standards if any:

Mirror Shape	Round	Round
Type	Spherical	Flat
Radius of Curvature	2000 mm	-----
Diameter	4.0" (101.6 mm)	2.0" (50.8 mm)
Coating Type	Al Coating	Al Coating
Material	Bk 7 & Zerodur	Bk 7 & Zerodur
Thickness	≤ 1" (25.4 mm)	≤ 0.5" (12.7 mm)
Clear Aperture	≥ 95% of diameter	≥ 95% of diameter
Scratch-dig	0-0 over entire surface	0-0 over entire surface
Wavelength Range	400 to 700 nm	400 to 700 nm
Reflectivity	≥ 90% @ 400-700 nm	≥ 90% @ 400-700 nm
Surface Flatness (RMS)	≤ λ/40 at 632.8 nm over entire diameter	≤ λ/40 at 632.8 nm over entire diameter
Surface Microroughness (RMS)	≤ 1Å. after coating	Different samples of roughness 1Å, 2 Å, 3 Å, 4 Å, 5Å, 6Å, 7Å, 8Å, 9Å, 10Å after coating.
Quantity	2 numbers for each type of material (2*2=4)	2 numbers for each surface microroughness and 2 numbers for each type of material 2*(10*2)=40

Profilometer data with 1x/2.5x,5x, 10x, 25x & 50x magnifications should be provided for all the mirrors before and after coating as mentioned below:

1. Minimum of 40 measurements over 2.0" diameter with at least 10 measurements in each quarter for each magnification. (OR Equivalent)
2. Minimum of 60 measurements over 4.0" diameter with at least 15 measurements in each quarter for each magnification. (OR Equivalent)
3. All the mirrors should be provided with appropriate vacuum ( $10^{-3}$  mbar) compatible mirror holders.
4. Mirror surfaces should be free from particle contamination.

**Eligibility criteria of vendor:**

The vendor must have understanding, experience and infrastructure for the design and fabrication of highly polished optical mirrors.

**Expected deliverables**

Highly polished Al coated mirrors as mentioned above.

**Safety Requirements:**

**Environmental conditions:**

Components will be operated and stored in ISO6 (class 1000) clean rooms

**Inspection, test and acceptance criteria:**

**Profilometer data should be provided as mentioned in the specifications.**

**Expected Time Schedule : 2-3 Months**

**Conceptual layout/drawings if any.**

2D sketch and 3D model of the mirror holders should be provided

**Contract and General Terms & Conditions**





