

Invitation of quotations

Ref: AE/SaM/2016/01

Department of Aerospace Engineering
Indian Institute of Technology Kanpur

February 9, 2016

Quotations are invited for the following items in the *Advanced combustion & acoustics laboratory*, affiliated to the Department of Aerospace Engineering, Indian Institute of Technology Kanpur.

1 Subject: Double pulsed laser along with light sheet optics and laser beam guiding arm to perform particle image velocimetry technique

With reference to the subject mentioned above, you are invited to submit the quotation in a sealed cover (**technical and financial bid should be in separate sealed envelope**) in order to reach us on or before **2 PM 23/02/2016** in the form of a hard copy to the address mentioned below. The following are the technical details of the required item.

2 Technical specification

The technical details for the required items are as follows. Further all the items should be able to operate in the power supply available in India (single or three phase). Any additional unit, if required should also be indicated.

2.1 Laser

- Laser should be employed in particle image velocimetry (PIV) technique
- It should be able to be operated in double pulse mode
- It should have dual cavities
- The following technical specifications need to be met
 - repetition rate of 0-15 Hz or larger range
 - output energy: atleast 135 mJ per pulse at 532 nm
 - pulse to pulse energy stability $\leq 2\%$ RMS
 - laser beam diameter < 6 mm
 - beam divergence < 4 mrad
 - pointing stability $< 110 \mu$ rad
 - lamp life > 50 million
 - timing jitter < 1 ns
- Additional cooling system, if any should be included

2.2 Light sheet optics

- Focal length should be in the range: 0.8-1.2 m
- Divergence angle: 10-20 degrees
- Maximum measuring area: 200 mm × 200 mm
- Light sheet thickness ≤ 1 mm
- All the lens used should be graded for the above laser

2.2.1 Laser beam guiding arm

- The structure should have atleast 7 joints with the ability to rotate by 360 degree freely.
- Length: 1.5-2.5 m
- All the optics used should be graded for the above laser
- Transmission loss ≤ 18 %

3 Quantity

One quantity is required in each of above described items.

4 Terms and conditions

- All the above items should be successfully installed and commissioned with the PIV camera.
- Basic training must be provided to the students in IITKanpur for all the above items
- Warranty of atleast 2 years must be provided
- Prices should include other additional charges, i.e. freight, insurance etc.
- Maximum educational discount should be shown explicitly in the quotation.

5 Contact

Please send the applications to the following address:

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