वांतरिक्ष अभियांत्रिकी विभाग
DEPARTMENT OF AEROSPACE ENGINEERING
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Enquiry No: **AE/DD/2014/05**
Date: 19 December 2014

Sealed quotations are invited for supply of **High resolution stereo camera system for PIV and flow visualization with long distance microscopic lens** as per the specifications given below.

Specifications:

1. CCD/CMOS Cameras for PIV

- Dynamic range A/D: 12 bit or more, Monochrome
- Resolution: >25 Megapixels
- Pixel sixe: < 8µm
- Quantum efficiency: >45 % @ 532 nm
- Operational mode: Single and double frame modes
- Frame rate: 2 fps or higher (at full resolution in double frame mode)
- Exposure time: should be adjustable, minimum: 5µs or less
- Inter framing time: 1µs or less
- Triggering: The cameras should have an option of external triggering using a TTL signal.
- Camera interface: Please include necessary hardware for camera interface such as frame grabbers, connecting cables etc.
- Operating temperature & humidity: 10^0C to 45^0C & 10% to 90% RH.
- Optical interface: F-mount
- Please include any other required accessories, power supply, cables etc.
- Software: Software for controlling the camera (like exposure time, trigger mode, resolution, single or double frame modes, pixel binning, ROI, acquiring and saving images to a hard disk etc.)
- Quantity: 02 Cameras for stereoscopic PIV and 2 software licenses.

2. Software:

- Software Package with GPU and batch processing

Quantity: 02 licenses

3. Lens:

Kindly quote for the following lens. Lens will be chosen from the list.

S. No.	Lens	Quantity
1.	Long distance microscopic lens* for the supplied camera 20X	1

2.	Long distance microscopic lens* for the supplied camera 40X	1
3.	PC-E Micro NIKKOR 85mm f/2.8D	2
4.	PC-E Micro NIKKOR 45mm f/2.8D	2
5.	AF-S NIKKOR 35mm f/1.4G	1
6.	AF-S NIKKOR 80-400mm f/4.5-5.6 G ED VR	1

The microscopic lens should be able to measure velocity field in a micro channel of diameter/width 100μm or more.

4. Mounts/tripods/rails:

Mounts/tripods/rails for both the cameras to arrange in a stereoscopic configuration for using it as a standalone stereo visualization system.

5. Workstation

Windows 7 64-bit, Intel Xeon processor, quad core or more, 64 GB RAM, graphics card 1GB or more RAM for GPU support, 1 TB 10k rpm, 22" or more Monitor, usb Mouse, usb Keyboard.

6. Synchronizer (Optional):

- 6 or more channel synchronizer for synchronizing lasers and cameras.
- External/internal trigger option should be available

Notes:

1. All quotations must reach the undersigned by **27 December 2014**.
2. Quotation must be valid for 60 days.
3. Desired warranty period: At least 2 years for all components
4. All the technical details should be attached along with the quote.
5. Include educational/academic discounts.
6. The system has to be installed and demonstrated at IIT Kanpur

Prof. Debopam Das