

## Request for Quotation

REF: AE/DD/2012/07

Date: September 25, 2012

To

M/s :

Sub : Quotation for supply of: Optical filters for simultaneous PIV and PLIF measurements as per the following specifications

Sir / Madam:

With reference to the subject mentioned above, you are invited to submit the quotation in a sealed cover in order to reach us before October 08, 2012 in the proforma quotation enclosed herewith in the form of hard copy / soft copy for your use.

The following optical filters are required as per the given specifications to be used on cameras to carry out simultaneous PIV and PLIF measurements in liquids and gases.

**Transmission efficiency:** All the filters should have transmission efficiency: >85% (if not, please specify)

**Filter 1:** Filter for PIV

**Filter type:** 532 nm Band pass filter

**Band width:** 532 ± 10 nm

**Filter thread size:** M62 x 0.75mm

The filter can be directly of the above size; or at least of 50mm diameter, in which case an appropriate filter adapter ring must be included in the quote.

**Application:** This filter will be used on the lens of a CCD camera used in PIV measurements. The filter should allow scattered laser light (from seeding particles) of 532nm into the camera and cut-off all other wavelengths from entering the camera.

**Filter 2:** Filter for Liquid PLIF using Rhodamine-6G

**Filter type:** 550 nm Long-wave pass filter

**Filter thread size:** M62 x 0.75mm

The filter can be directly of the above size; or at least 50mm diameter, in which case an appropriate filter adapter ring must be included in the quote.

**Application:** Rhodamine-6G when mixed with water, and exposed to 532 nm green light sheet, absorbs 532 nm light and emits out maximum fluorescence at 560nm. This filter, to be used on PLIF camera, has to allow light with wavelength greater than 550 nm and cut off all other wavelengths below 550 nm.

**Filter 3:** Filter for Acetone PLIF in gases using 266 nm laser.

**Filter thread size:** M67 x 0.75mm

The filter can be directly of the above size; or at least of 50mm diameter, in which case an appropriate filter adapter ring must be included in the quote.

**Filter type:** A wide band-pass filter which allows light in wavelength range 400-500nm; or any filter which satisfies the following application

**Application:** When Acetone vapour is mixed with gases (air, Helium etc..) and exposed to 266 nm laser sheet, it absorbs light at 266 nm and emits out maximum fluorescence in the range approximate 400-500 nm (peak @at 445 & 480 nm). This optical filter, to be used on PLIF camera, should allow light in the wavelength range 400-500 nm (or 400-500nm). Apart from that, it should cut-off all other wavelengths, especially the scattered light (from any particles) of wavelengths 266nm and 532 nm. Filter 3 can be a single filter or a combination of filters.

Note: In all applications, filters will be exposed to scatter light from less than 5 micron size particles, illuminated by a laser sheet from a pulse laser of 100mJ/pulse to 300mJ/pulse. Size of the laser sheet is typically 150mm X 150mm or larger than it. The typical pulse width of the laser light is 5-10ns.

The following must be included in the offer along with the quote.

1. A data sheet/catalog/plot containing transmission (%) Vs Wavelength for all the filters quoted.
2. Specifications sheet for the filters quoted, if any.

The soft copy of the model quotation can also be downloaded from our website placed at the following link: (Form No. 608)  
[http://web.iitk.ac.in/dord/rndforms/project\\_purchases.php](http://web.iitk.ac.in/dord/rndforms/project_purchases.php)

Best regards,

Sincerely,

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