

Tender Notification for the procurement of a Charge coupled device (CCD) for imaging and spectroscopy at IISc (Last Date for submission of tenders: 5<sup>th</sup> June 2020)

REF: PH/ASIN/323/2020-21

13<sup>th</sup> May' 2020

Dear Sir/Madam,

Kindly send best/lowest quotation for the following items on **C.I.P. Bangalore basis**. The quotation should clearly indicate the terms of delivery, delivery schedule, E.D., transportation charges, if any, payment terms etc. The tender should be submitted in two separate documents - one containing the technical bid and the other containing the commercial bid. Kindly submit both the documents, duly signed, latest by 5<sup>th</sup> June' 2020 by email to aksy@iisc.ac.in or by post.

**Please enclose a compliance certificate along with the technical bid.**

**Specifications of Item:** Back-illuminated charge coupled device (CCD) for imaging and spectroscopy with the following specifications:

1. Back illuminated CCD.
2. Quantum efficiency above 10% in wavelength range 300-1025 nm, and above 65% for 600-800 nm.
3. Fringe reducing technology to reduce etaloning for wavelengths in the range of 700-1000 nm.
4. Chip image area: Horizontal dimensions in the range 25-30 mm, number of pixels in the range 1000-2000.
5. Chip image area: Vertical dimensions in the range 3.5-7 mm, number of pixels in the range 250-600.
6. Pixel size in the range 13-27 microns.
7. Dark counts  $\leq 0.001$  electrons/pixel/second (without using liquid nitrogen).
8. Air cooling  $\leq -75\text{C}$  with ambient lab temperature of 20C. Air-cooling apparatus should be integrated (in system) or included in quote.
9. Minimum read noise  $\leq 5$  electrons/pixel.
10. Minimum readout rate in the range 20-100 KHz.
11. Control software (including computer software and labview enabling development kits).
12. Operating voltage of 220V, 50Hz.
13. Related accessories such as connectors, adapters, cables etc. necessary for independent operation of the system.
14. Three years warranty.
15. Lowest CCD temperature and dark current should be demonstrated at time of installation. If these are not able to be demonstrated at-site, a certificate with lowest CCD temperature and dark current measured in-factory for the supplied equipment (not earlier taken data on similar equipment) should be provided.
16. The vendor should have a track record of having previously supplied at-least 3 similar equipment in India (front or back illuminated CCDs) in the past three

years. It would be desirable to provide 2-3 reference letters from customers in India.

**Options (to be quoted separately)**

- 1) Possibility of chip cooling  $\leq -90\text{C}$  to reduce dark counts (without using liquid nitrogen).
- 2) Liquid re-circulator that would ensure temperatures at or below  $-85\text{C}$ , with ambient lab temperature of  $20\text{C}$ .
- 3) Liquid chiller (with re-circulator) that would ensure temperatures at or below  $-90\text{C}$ , with ambient lab temperature of  $20\text{C}$ .

**Terms and conditions:**

1. The vendor should have qualified technical service personnel for the equipment based in India (preferably in Bangalore).
2. The payment will be through confirmed irrevocable Letter of Credit.
3. Any discount for payment terms- wire transfer in advance, should be mentioned in the quotation.
4. The lead time for the delivery of the equipment should not be more than 4-5 months from the date of receipt of our purchase order, or opening of irrevocable letter of credit (whichever is later).

Yours Sincerely,



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