



सत्येन्द्र नाथ बसु राष्ट्रीय मौलिक विज्ञान केन्द्र
SATYENDRA NATH BOSE NATIONAL
CENTRE FOR BASIC SCIENCES
সত্যেন্দ্র নাথ বসু জাতীয় মৌল বিজ্ঞান কেন্দ্র

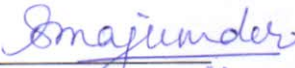
Dated: 05.10.2018.

EXPRESSION OF INTEREST (EOI)

S.N. Bose National Centre for Basic Sciences, Kolkata is an autonomous Research Institute under Department of Science & Technology, Government of India.

The Centre intends to purchase a "Mask Less Pattern Generator System" for its TRC project. Tentative technical specification of the item may be downloaded from <http://eprocure.gov.in/eprocure/app> or click at SNBNCBS@CPPP within www.bose.res.in.

The EOI meeting is scheduled to be held on Thursday, 11th October 2018 from 11:00 AM onwards at the Centre for a detailed discussion on the above mentioned instrument. Interested vendors may send an email to atin@bose.res.in for registration. They will be given maximum ten (10) minutes for Power Point presentation in front of the technical committee members.


Registrar 5.10.18

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भारत सरकार के विज्ञान एवं प्रौद्योगिकी विभाग के अंतर्गत एक स्वायत्त संस्थान

AN AUTONOMOUS INSTITUTE UNDER DEPARTMENT OF SCIENCE & TECHNOLOGY, GOVERNMENT OF INDIA

Specifications for Mask-Less Pattern Generator for EOI

1. Optical direct writing system with wavelength and power capable of writing on standard positive and negative resists with thickness up to 1 μm .
2. Capable of handling maximum substrates up to 100mm x 100 mm and minimum substrate size 4mm x 4mm and Substrate thickness up to 1 mm.
3. The substrate stage should have vacuum chuck for various substrate sizes as mentioned above.
4. Possibility of multistep lithography with 1.0 μm alignment accuracy and wedge compensation without interferometric stage.
5. Minimum features should be better than 0.8 μm with a writing speed of approximately 1mm²/min.
6. Option for both automatic and manual exposure and alignment along with grey scale exposure mode for three-dimensional patterning.
7. Stage should be controlled by nanosecond electronics and should have resolution of < 100 nm in the X,Y and Z direction.
8. The system should be capable of processing G and H band resists, **including SU8**.
9. System should have high resolution camera system for substrate inspection, automatic and manual alignment and measurement functions including dimension measurements.
10. AOM-based or digital modulation of the laser beam, with picosecond resolution and autofocus capability is preferred.
11. High optical resolution up to 0.8 μm or better.
12. Alignment accuracy (without interferometry stage) should be below 1 μm .
13. Optical magnification/camera: the lens change/magnification mechanics should allow fast selection of the lenses/magnification (5X, 10X, 20X, 50X, 100 X) and its related field of view via software. Metrology tools will be preferred
14. Option for an in-built automatic Wafer inspection tool will be preferred along with dynamic focusing.
15. Environment chamber for controlled and stable environment during system operation may be provided with the system
16. Minimum 3-years comprehensive warranty, with extended warranty for 2 years.

Optional:

1. An optional laser interferometer stage with alignment accuracy of $\leq 0.5 \mu\text{m}$
2. Accessories for lithography on SU8 resist with thickness up to 10 μm or more.
3. Any active or passive accessories needed along with the systems