

# A calibrator for precision linear encoders

## A length measuring system with sub-nanometer uncertainty was developed

To respond to the demand for the calibration of precision linear encoders, we have developed a new length calibrator with sub-nanometer uncertainty. It is capable of calibrating the non-linearity errors of the precision linear encoders with the best measurement uncertainty of 0.6 nm ( $k=2$ ). The system consists of an optical zooming interferometer, which can realize a several picometer resolution and sub-nanometer accuracy of positioning. Two tunable diode lasers, the optical sources of this interferometer, are stabilized by using an optical frequency comb. The calibration services for the precision linear encoders have been started.

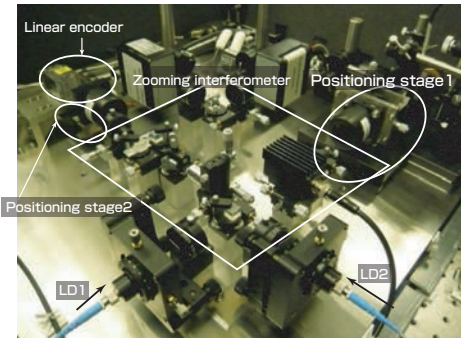
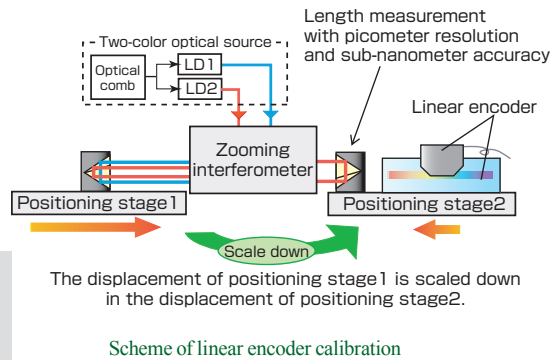


Photo of the calibrator

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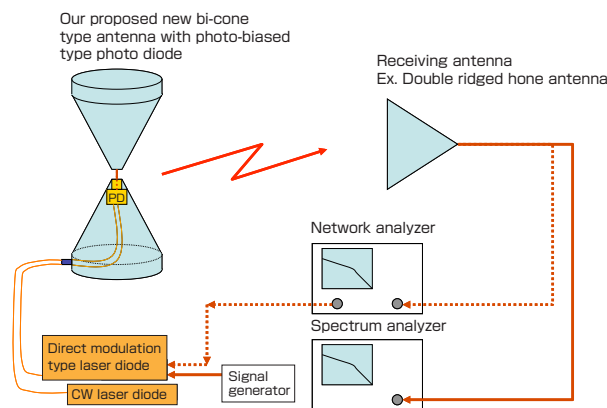
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# New evaluation method for EMI anechoic chamber over 1 GHz

## New proficiency test method for radiated electromagnetic interference measurement over 1 GHz

We propose a bi-cone type antenna with a photo-biased type photo diode and an optical fiber link electromagnetic interference evaluation measurement system over 1 GHz that consists of a transmitting optical fiber link system and a vector network analyzer. The proposed system can measure  $S_{21}(\omega)$  and  $S_{21}(t)$  with the radiated electromagnetic interference measurement.



Proposed optical fiber link system and new bi-cone type antenna

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