

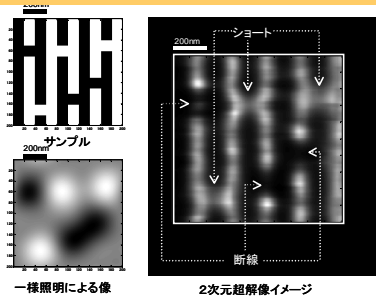
Nanometer Profile Measurement and Establishment of Traceability

Program Member: K. Takamasu (Dept. Prec. Eng.), Affiliated Member: S. Takahashi



As a basic technology of an innovative machine production, novel nanometer profile measurement methods are developed and traceability of nanometrology is established.

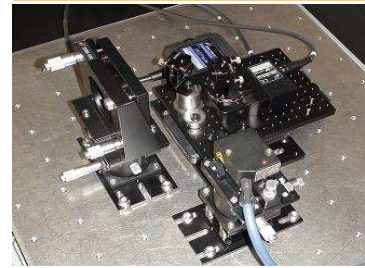
Super resolution for semiconductor defects



S. Takahashi

Gyogy Striker Junior Paper Award: R. Kudo et al., Fundamental Verification for 2-Dimensional Super-Resolution Optical Inspection for Semiconductor Defects by Using Standing Wave Illumination Shift, IMEKO World Congress 2009.

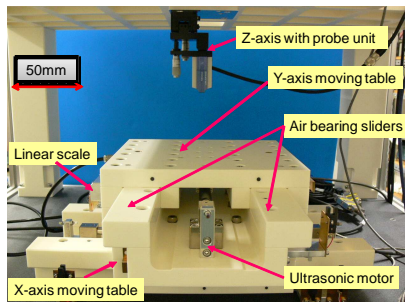
Nanometer profile of large aspheric optical surface



S. Takahashi

M. Xiao et al., Profile Measurement of Large Aspheric Optical Surface by Scanning Deflectometry with Rotatable Optical Devices - Error Analysis and Pre-experiment-, Key Eng. Materials 447-448 (2010) pp 604-608

Development of high precision CMM

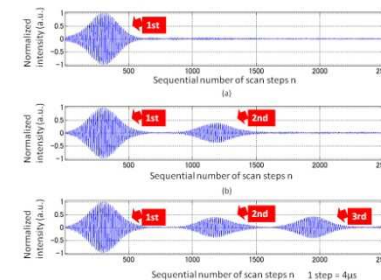


S. Takahashi

H. Matsumoto

JSPE Young Researcher Award: S. Liu et al., Profile measurement of a wide-area resist surface using a multi-ball cantilever system, Precision Eng. 33, 2009, 50-55.

Absolute length measurement by optical comb laser



H. Matsumoto

Outstanding Paper Award, 10th ISMQC 2010: D. Wei et al., Advanced Absolute Length Metrology Based On Pulse Trains' Constructive Interference - Measurements of Meter Order with an Accuracy of Nano Order -, C1-001-1-4
D. Wei et al., Experimental observation of pulse trains' destructive interference with a femtosecond optical frequency-comb-based interferometer, Optics Letters 34 (18), 2009, 2775-2777