

# Traceable measurement of lateral calibrators for nanoscale observation instruments

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Proper calibration of any instrument is vital to an investigator's ability to compare laboratory experiments, as well as to draw quantitative relations between experimental results and the real objects. *Traceability* is a term used to certify an instrument's accuracy relative to a known standard.

Because traceability to meter is very expensive and complicated process, accurate and *traceable calibration* of lateral and vertical standards is a basic metrological task for nano- and microtechnology. In this paper, we describe a interferometric and a diffractometric method for lateral calibration of a grating used as an artifact for optical, AFM or confocal microscope calibration. Instruments used are a length measuring interferometer (SIOS) and an optical goniometer (Zeiss).