SPECKLE **CORRELATION**

Speckle correlation is a method using the optical speckle effect in detection of small deformation tensor components of rigid objects.

ACQUIRED INFORMATION

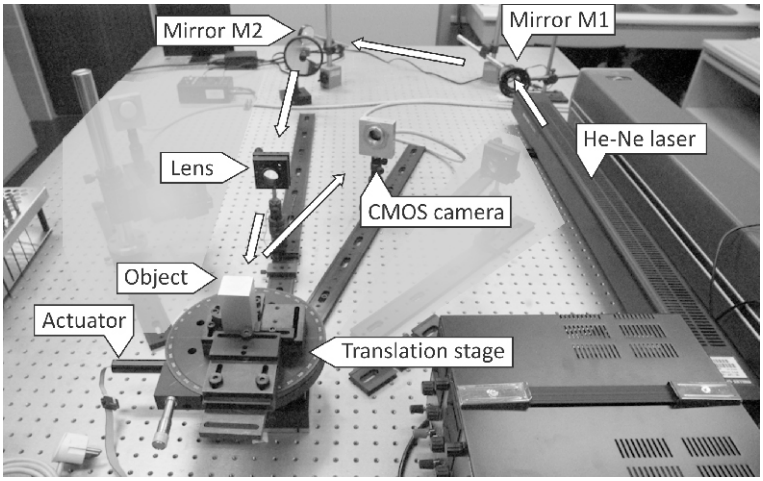
> One-axis translation of a rigid object in a tangent or normal to the object's surface under test

SAMPLE TYPES

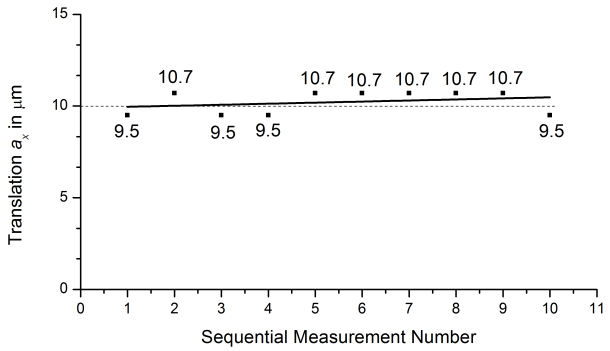
> Diffusely reflecting metallic and non-metallic surfaces of sufficient reflectivity for speckle effect observation

MODES, CONDITIONS AND PRECISION

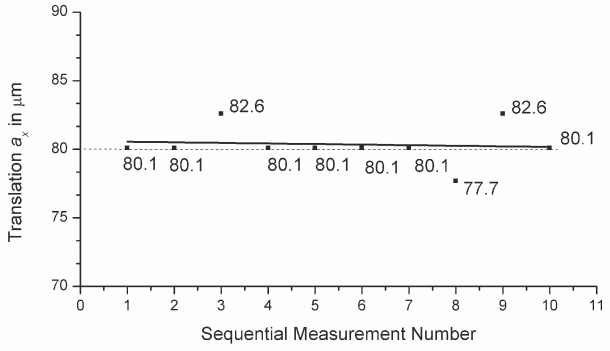
> Type of measurement: check measurement
> Measurement is performed on a laboratory measurement set-up
> One-axis translation component of the plane surface under test of the rigid body in a “point” is evaluated
> Unvarying direction of a laser beam incident perpendicularly on the object's surface under test during measurement
> The plane object's surface under test of a minimal diameter 30 mm during measurement
> Measurement range 10-500 µm
> Relative standard deviation < 10 %



Laboratory measurement set-up



An example of the measurement: a steel object (tangential translation a_x by 10 µm, achieved result (10.2 ± 0.2) µm)



An example of the measurement: an aluminum object (tangential translation a_x by 80 µm, achieved result (80.4 ± 0.4) µm)

DETAILED INFORMATION ON REQUEST

REGIONAL CENTRE
OF ADVANCED TECHNOLOGIES
AND MATERIALS

WWW.RCPTM.COM RCPTM.SERVICES@UPOL.CZ

Palacký University
Olomouc