

TIS

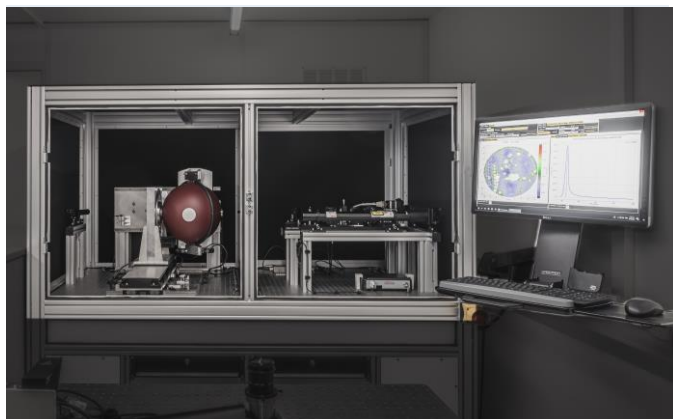
TOTAL INTEGRATED SCATTERING

Quantitative, spatial and angle integrated scattering

Our total integrated scattering (TIS) measurement device can measure the forward- and backward scattered light of an optical component.

Scattered light is usually considered as a loss in optical components. Therefore, it is a very important quantity especially for low loss optics. The possibility to measure the spatially resolved TIS also allows one to investigate surfaces regarding cleanliness or roughness. It can detect the smallest defects or particles in a multilayer interference coating. The non-uniformity of coatings with regard to the layer thickness can also be measured, since the scattered light is proportional to the reflectivity.

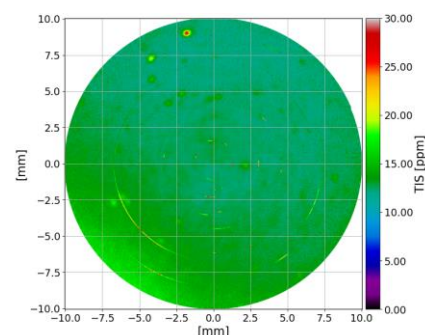
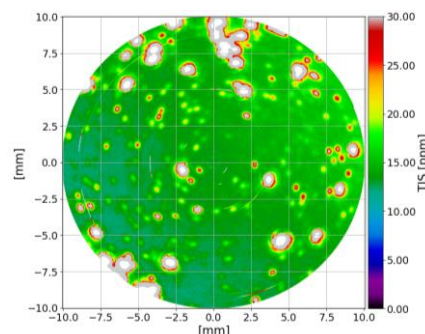
The principle of the TIS measurement is based on the integration of the scattered light using an integrating sphere. A laser beam is aligned on an optical component such that the specular reflection and transmission is absorbed by a beam dump. The scattered light either in the forward- or backward direction is captured and homogenized by an integrating sphere and then measured with a photomultiplier. A motorized linear and rotating stage allows one to map the whole sample within a short period of time.



Laser source
633 nm HeNe Laser

Test conditions
6 ppm to 100%
Sample size up to Ø100mm

Standard
ISO 13696



Comparison pre- and post cleaning

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