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PrismMaster® Operation

Principle of the Setup

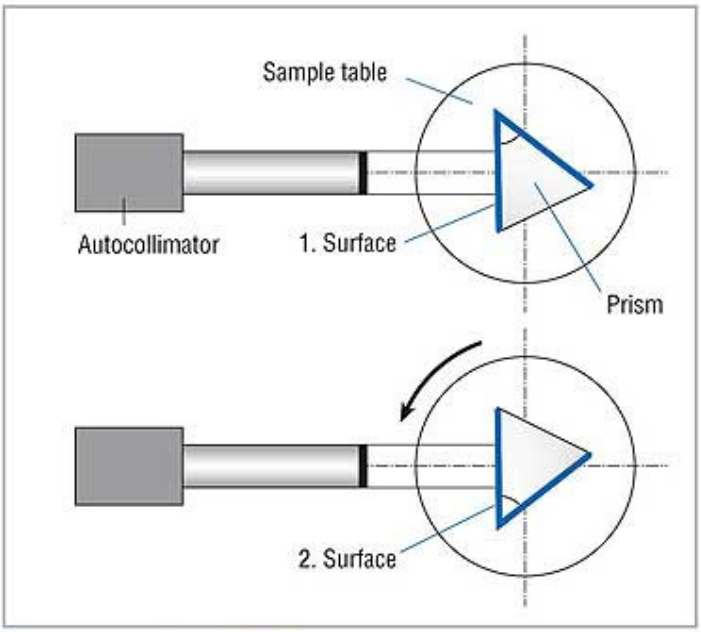
Even though every PrismMaster® is adapted to specific accuracy and application requirements, the principles of the setup and function are the same for all of them.

The main components of PrismMaster® instruments are: a high-precision rotary table, an angular sensor (encoder), the measuring head with an electronic autocollimator, a CCD camera, and light source and of course the software.

The sample table is mounted on a ball bearing or air bearing and is moved into the exact position needed either manually or by a motorized drive. In particular for the exact determination of pyramidal errors, the units with air bearings are the optimum choice.

Measurement in Reflection

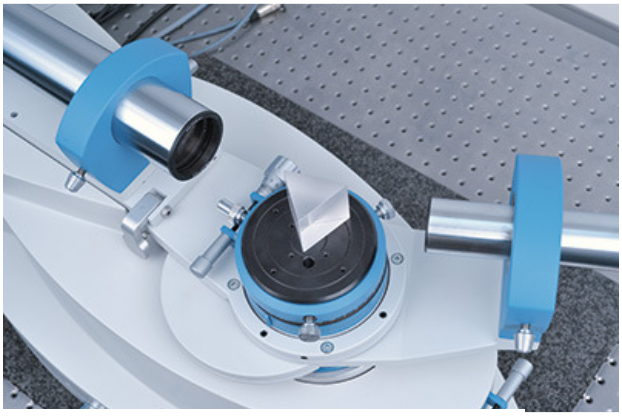
- The test sample is positioned on the rotary table in such a way that one of its surfaces is roughly at right angles to the optical axis of the autocollimator.
- The software saves this position as a reference, (Fig. 1, Image 1).
- The next surface of the test sample is turned towards the autocollimator, either manually or using the motorized drive.
- The reflection angle is measured either automatically (motorized versions) or by pushing a button.



Measurement in reflection

Measurement in the Transmission

With the PrismMaster® and PrismMaster® MOT, the angle of deflection of optical components is measured in transmission. For this purpose, a product version with an additional collimator is required.



Measurement in transmission

Measuring the Index of Refraction

To measure the index of refraction of glass, the PrismMaster® and PrismMaster® MOT instruments have an extension module with a collimator and spectral light source.