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TriAngle Application: Calibration of Index Tables and Rotary Encoders

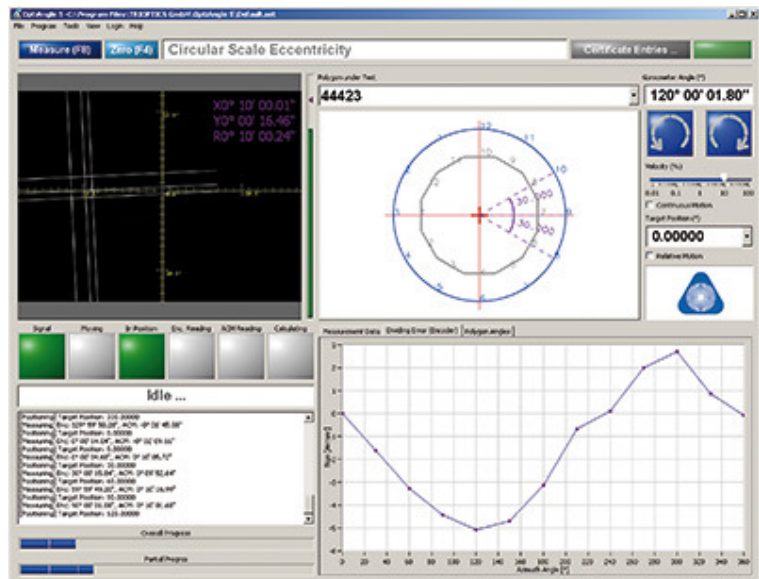
The accuracy of goniometers and rotary machine axes equipped with angular encoders is mainly determined by the runout error of the mechanical axis, manufacturing errors of the encoder scale and the eccentricity between axis and encoder.

The absolute calibration of the angular readings of goniometers and rotary encoders is often made by the rosette technique. This procedure is based on measuring the difference of the angles between two adjacent facets of a precision polygon mirror.

By measuring all the facet angle differences a calibration curve is obtained which can be used to correct the angular readings of the encoder for the complete system, whether machine axis, goniometer or index table.

The calculations involved are quite cumbersome and complex without software assistance, but easily done with the dedicated software Plug-In of the OptiAngle® software.

The measurements can be performed with manual axis rotation or with motor control if available.



OptiAngle® Plug-In for index table calibration