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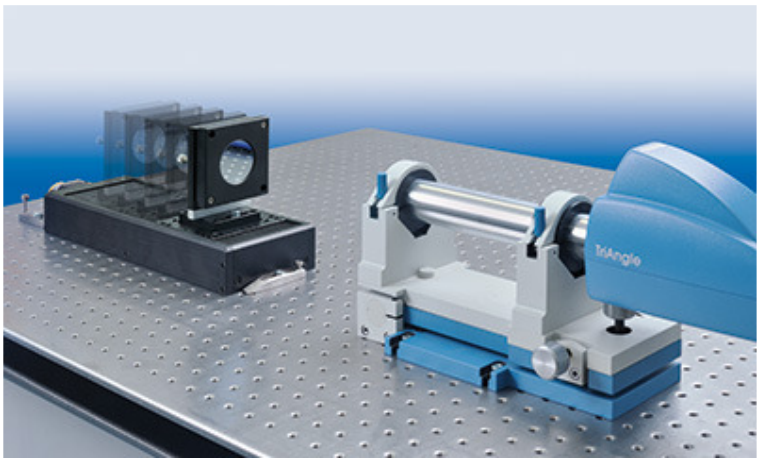
Measurement Applications

Typical TriAngle® Measurement Applications

The applications of TriAngle® autocollimators are mainly related to the detection and measurement of small angular displacements. TRIOPTICS has successfully supported customers in a wide area of application fields.

- Assembly and adjustment of optical components like mirrors, prisms, windows, wedges etc.
- Alignment of machinery
- Proof of straightness and flatness of tables, rails, linear guides, etc.
- Measurement of yaw, pitch and roll errors of linear stages
- Characterization of rotation stages (wobble and run-out measurement)
- Measurement of wedge, prism and polygon angles
- Measurement of parallelism of reflecting surfaces
- CD/DVD ROM alignment (focusing and tracking)
- Thermal stability investigations
- Analyzing the stability or deformation of mechanical or optical constructions
- Vibration analysis
- Alignment of astronomical systems
- Alignment of components for the beam control in high energy physics
- Inspection of solid state Laser rods
- and many more ...

A few prominent examples will be given in the following sections.



TriAngle® autocollimator measuring pitch and yaw of a linear stage

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Measurement Task	TriAngle®	TriAngle® UltraSpec	TriAngle® HiSpeed	TriAngle® LASER
Tilt angle	■	■	■	■
Analyzing more than one optical surface	■			
Wedge angle in reflection	■			
Wedge angle in double pass	■	■	■	■
45° prism error	■			
90° prism error	■			
Wobble	■	■	■	■
Vibrations			■	
Low reflective surfaces			■	■
High precision measurement		■		
Calibration tasks	■	■		
Straightness measurement	■	■		■
Flatness measurement	■	■		■

Standard TriAngle® Configurations

	TriAngle®	TriAngle® UltraSpec	TriAngle® HiSpeed	TriAngle® LASER
Sensor	CCD Camera	CCS Camera	PSD	CCD Camera
Light Source	LED	LED	Laser	Laser
Interface	IEEE 1394	IEEE 1394	Analog, USB	IEEE 1394

Different configurations are available upon request