

## Scatter Measurement Capabilities

TSW operates a CASI Scatterometer in a small clean room. These measurements are useful for a huge variety of applications. They can be used as a measure of quality for optical surface finishes and films, as a way to characterize point defects and are often needed as input data for programs that predict signal limiting scatter levels in complex optical systems.

The CASI system is capable of making both transmissive and reflective scans within the incident plane and can make limited measurements out of the incident plane as well. It currently operates at wavelengths of 488 nm, 633 nm and 980 nm with full polarization control on the source and full polarization filtering on the receiver. Additional wavelengths will be added depending on market requirements. Samples may be flat or gently curved, and may vary in size from a few millimeters to larger than a 300 mm wafer. The sample stages can be moved in repeatable five micrometer steps and the illuminated spot can be varied from ten micrometers (for measurement of scatter from discrete defects) to several millimeters (to characterize surface scatter).

Results are presented in either BRDF or DSC format (for roughness or discrete defects respectively). Numerical results are delivered as Excel files (with charts) and a report describing the measurement details is written in WORD and everything is delivered by email. Read "Scatter Terms" under the Technical Information tab at the left for more information.

We can also help you define and arrange for measurements at different wavelengths (0.325  $\mu\text{m}$ , 1.06  $\mu\text{m}$ , 3.39  $\mu\text{m}$ , and 10.6  $\mu\text{m}$ ) at another lab. If you need help determining what should be measured, or in analyzing the results, it may be to your benefit to do one stop shopping for all of your measurements at TSW. Contact John Stover to order scatter measurements.

More detailed information about scatter measurements and related terms may be found in Defining Scatter Terms or in John's Book, Tutorial and Video.