Conoscopic Scatterometer

The Fastest Way to Accurately Measure Optical Scatter

Features

- Real-time measurement of BRDF, BTDF, Hemispherical Reflectance or Transmittance, PSD and Angular Resolved Scatter
- Specular measurements with no limitation on the angle between the source and the detector
- Acceptance half-angles from 4° to 80°
- Resolution of half angle / 1000
- Manual or software control
- Complete measurements in < 1 second
- Dynamic Range of 1000:1

Measure the scattering from a sample in real-time, at high resolution, and with great ease of use.

Eckhardt Optics designs and manufactures a line of scatterometers based on our conoscopes. To turn a conoscope into a scatterometer, we add light sources for transmissive measurements (BTDF) or reflective measurements (BRDF) and appropriate analysis software. These scatterometers can be customized to match your measurement requirements.

Scatterometer includes everything to measure BRDF and BTDF

- Conoscopic lens
- CMOS camera
- BRDF and BTDF light sources with adjustable angles of incidence
- Stand with stage for ±20mm vertical travel
- Standards for dark field and flat field calibration
- Red, Green, Blue, and White LED sources
- Software

Specifications

Measurements
BRDF, BTDF, hemispherical transmittance and reflectance, Angular Resolved Scatter

Calculations
TIS, PSD; ABC or ABg coefficients for BSDF

Wavelength
450 to 805 nm or white LED

System Accuracy
Resolution: half angle / 1000
Dynamic Range: 1000:1

Limiting Angles
Angle of Incidence for BRDF: 5° less than lens
Angle of Incidence for BTDF: -60° to 60°

Sample Characteristics
Minimum Sample Diameter: 4mm
Sample Clearance: 40mm
Positioning: Manual
Specular or Diffuse

Computer
Interface: USB 3.0
Software: Microsoft Windows® based

Operating Conditions
Temperature Range 10° to 40° C
Humidity: 0 to 95% RH, non-condensing

Physical Dimensions
Size: 20 x 20 x 45 cm
Weight: 10kg