

SENresearch 4.0

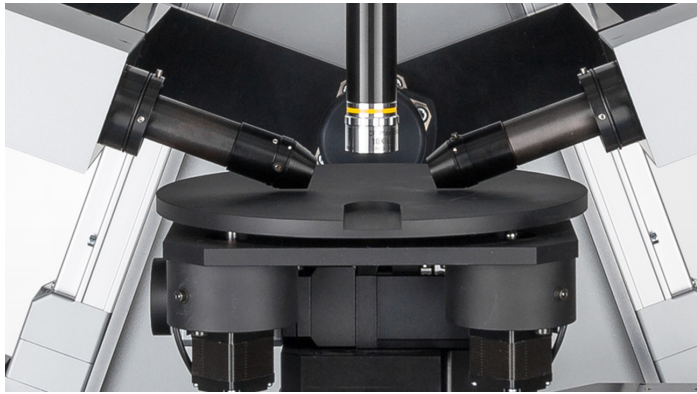


SENresearch 4.0 Spectroscopic Ellipsometer

Customer specific
configuration

SENTECH

Erfolg
durch Leistung



SENresearch 4.0 with automated height and tilt adjustment & microspot option

SENresearch 4.0 Spectroscopic Ellipsometer

- **Widest spectral range and highest spectral resolution**
- **No moving parts with SSA principle**
- **Full Mueller matrix by innovative 2C design**
- **SpectraRay/4 comprehensive ellipsometry software**

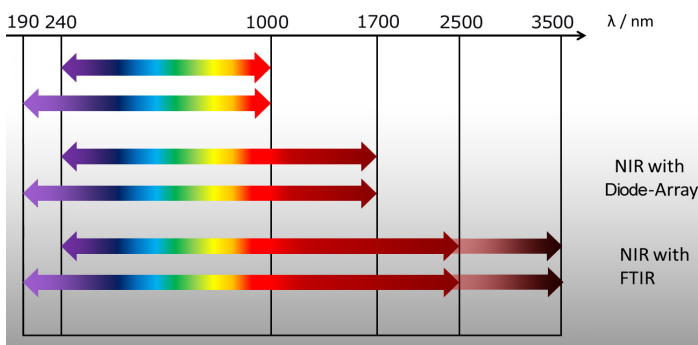
Highlights:

The **SENresearch 4.0** covers the widest spectral range from 190 nm to 3,500 nm and the highest spectral resolution in the NIR by FTIR ellipsometry.

The **Step Scan Analyzer (SSA)** principle is a unique feature of the **SENresearch 4.0**. The field upgradeable 2C design allows full Mueller matrix measurement.

The **SENresearch 4.0** comes with **SpectraRay/4** – SENTECH comprehensive software for ellipsometry data acquisition and analysis. Every individual **SENresearch 4.0** spectroscopic ellipsometer is a customer-specific configuration of spectral range, options and field upgradeable accessories.

Configuration:



SENresearch 4.0 spectral ranges

Options

- Pyramid goniometer (20°-100°)
- Reflectometer (450 -920 nm)
- Cryostat

Field upgradeable accessories

- Mapping
- Turntable for anisotropic samples
- 2C design for full Mueller matrix measurement
- Auto height and tilt adjustment
- Micro spots
- Liquid cells
- Heating and cooling stages
- Transmission holder

Specifications:

Ellipsometer operation principle:	Step Scan Analyzer (SSA) PSCA setup Highly stabilized compensators
Light source:	Computer controlled dual light source comprising Deuterium and Halogen-Tungsten lamp
Detector/Spectrometer:	UV-VIS: linear CCD array NIR (up to 1,700 nm): linear InGaAs diode array NIR (up to 2,500/3,500 nm): FTIR spectrometer, InGaAs/InAs photodiode
Accuracy:	Ψ (Psi): 45 ± 0.03 deg, Δ (Delta): 0 ± 0.06 deg
Precision of Thickness (1σ):	0.015 nm, SENTECH standard wafer 100 nm SiO ₂ /Si
Precision of R.I. (1σ):	0.0002 SENTECH standard wafer 100 nm SiO ₂ /Si
Spot size:	1.5 – 3 mm 200 μ m with standard micro spot (smaller on request)
Incident angle:	20° - 100°, 0.001° precision (motorized Pyramid Goniometer) 40° - 90°, set in 5° steps, 0.02° precision (manual goniometer)
Measurement time:	UV-VIS: 5 s NIR: 10 s (with FTIR) Fast mode (UV-VIS): 200 ms
Sample platform:	150 mm – 300 mm diameter
Power requirements:	115/230 VAC, 50-60 Hz, 600 W

SENTECH Instruments GmbH

Schwarzschildstraße 2
12489 Berlin, Germany
Phone: +49 30 6392 5520
Fax: +49 30 6392 5522
E-Mail: info@sentech.de
www.sentech.com

SENTECH Gesellschaft für Sensortechnik mbH

Konrad-Zuse-Bogen 13
82152 Krailling, Germany
Phone: +49 89 897 9607-0
Fax: +49 89 897 9607-22
E-Mail: sales@sentech.de
www.sentech-sales.de



**Erfolg
durch Leistung**