

Article Overview

The LS Spectrometer is a goniometer-based multi-angle light scattering instrument for precise particle characterization using both static (SLS) and dynamic light scattering (DLS).

Overview

The LS Spectrometer, including the LS Spectrometer(TM) II and 3D LS Spectrometer configurations, is designed for high-precision particle characterization in research and industrial applications. It combines multi-angle light scattering (MALS) with advanced DLS capabilities, enabling accurate measurements of particle size, shape, molecular weight, viscosity, and interactions, even in turbid or concentrated samples without the need for dilution .

Key Features

- o Goniometer-based design: Measures a wide angular range using a rotatable arm, providing high precision in both SLS and DLS experiments .
- o 3D cross-correlation technology: Suppresses multiple scattering, allowing measurements in native, undiluted samples and improving accuracy for concentrated or turbid solutions .
- o Modular and customizable: Optional features such as Modulated 3D technology and pseudo cross-correlation detectors allow adaptation to specific research needs .
- o High-resolution measurements: Capable of scattering angle measurements from 15° to 150° with resolution better than 0.01°, and lag times down to 25 ns for fast-diffusing particles .
- o Software integration: Controlled via LsLab software for seamless operation and data analysis .

Applications

The LS Spectrometer is widely used in academic research and formulation development across industries such as pharmaceuticals, cosmetics, food, specialty chemicals, and advanced materials . Typical applications include:

- o Particle sizing and polydispersity analysis
- o Molecular weight determination
- o Viscosity and rheology measurements
- o Microstructure and particle interaction studies
- o Monitoring gelation, aggregation, and aging processes It is particularly effective for native-sample analytics, allowing researchers to study fragile or evolving materials without mechanical disturbance or dilution .

Advantages

- o Error-free measurements in highly concentrated or turbid samples
 - o Simultaneous SLS and DLS experiments on the same sample volume
 - o Adaptable to complex research needs with optional add-ons
 - o Non-invasive and contact-free analysis, preserving sample integrity
- The LS Spectrometer represents a versatile and high-performance tool for researchers requiring precise, reliable, and flexible particle characterization in both routine and advanced experimental setups .

Polymers LS Spectrometer Towards Standards for Light Scattering Studies of Proteins Stability and Nanoparticle-Protein Interactions

Discover the latest model of LS Spectrometer from LS Instruments launched in March 2023. The LS

LS Devices, an affiliate of LS Instruments in the US and Canada, is the leading provider of innovative light scattering technologies.

The genesis of LS Instruments' technology and product portfolio traces back to pioneering research projects at ETH Zurich and the

The LS Spectrometer(TM) II is a goniometer-based variable-angle light scattering instrument for Static Light

LS Spectrometer Dynamic and static light scattering for powerful particle characterization Science is our passion and when it comes

The LS Spectrometer User's Manual provides comprehensive instructions for operating and maintaining the LS Spectrometer, which

The Exemplar® Plus is a high performance smart spectrometer utilizing a low stray light unfolded Czerny-Turner spectrograph.

The LS Spectrometer(TM) is a goniometer-based multi-angle static light scattering (SLS) and dynamic light scattering (DLS) instrument

LS Instruments is a manufacturer of instruments for particle characterization based on light scattering technologies. The revolutionary

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Ls Spectrometer

The 3D LS Spectrometer is the most popular configuration of the LS Spectrometer. Since it is equipped with the 3D cross-correlation

3D LS Spectrometer: Specifications The 3D LS Spectrometer is the most popular configuration of the LS Spectrometer. Since it is

The Acton LS 785 from Teledyne Princeton Instruments is a Spectrometer with Wavelength Range 785 to 1100 nm, Spectral

The 3D-LS setup consists of a polarized 21 mW HeNe laser (632.8 nm), a single mode fiber detection system with integrated

The LS Spectrometer(TM) is a goniometer-based multi-angle static light scattering (SLS) and dynamic light

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