

FOR IMMEDIATE RELEASE

SSI Expands VUV Capabilities with New Vacuum UV Measurement System

Irvine, CA - November 25, 2025 - Spectrum Scientific, Inc. (SSI) today announced the expansion of its deep ultraviolet (DUV) and vacuum ultraviolet (VUV) coating capabilities with the installation of a McPherson VUVAS vacuum spectrophotometer. The system allows SSI to directly measure coating reflectance from 115–380 nm under true vacuum conditions, eliminating atmospheric absorption effects and providing highly accurate, repeatable performance data.

The new metrology capability enables SSI to fully validate and optimize its DUV/VUV coatings, which routinely deliver up to 10% higher reflectivity than conventional solutions. This improvement translates into higher throughput, greater sensitivity, and improved signal fidelity across multi-mirror optical systems, particularly in compact or low-light instrumentation where every photon counts.

SSI's coatings are compatible with a broad range of substrates, including aluminum and glass, and are available on aspheric mirrors, off-axis paraboloids, ellipsoids, and diffraction gratings. These high-performance coatings support demanding applications in DUV/VUV spectroscopy, chemical analysis, aerospace and defence systems, and space astronomy instruments.

"The McPherson VUVAS gives us the ability to verify coating performance with absolute confidence," said David Cook, General Manager at Spectrum Scientific. "Our coatings have long delivered exceptional real-world results, and this capability allows us to demonstrate their performance with quantitative, vacuum-verified data, helping our customers design for maximum efficiency and reliability."

With the addition of advanced vacuum-UV characterization, SSI continues to strengthen its position as a leader in high-performance reflective optics. The company combines decades of coating expertise with scalable, high-fidelity replication technology to deliver optics that maximize throughput, improve sensitivity, and maintain signal integrity in the most challenging short-wavelength environments.

If you'd like validated DUV/VUV coatings for your next instrument, message us or if you would like more information, visit ssioptics.com and download our White Paper on *'How Unique Optical Coatings Boost Performance in the DUV and VUV'*.

About Spectrum Scientific, Inc.

Spectrum Scientific, Inc. (SSI) is a high-volume supplier of reflective optics, including holographic diffraction gratings, precision mirrors, and hollow cube retroreflectors, produced in a fully space-qualified, silicon-free cleanroom. SSI's proprietary nanoimprint replication process delivers high-fidelity optical components with routine figure accuracy better than 1/10 wave and angstrom-level surface roughness at a fraction of the cost of traditional manufacturing.

This scalable process enables tight batch-to-batch repeatability, rapid production ramp-up, and extensive design flexibility. SSI's holographically blazed diffraction gratings provide high UV efficiency with ultra-low stray light, supporting a broad range of markets including analytical instrumentation, telecommunications, life sciences, aerospace, medical, and defence applications.

Short Version:

SSI Expands VUV Capabilities with New Vacuum UV Measurement System

Irvine, CA - November 25, 2025 - Spectrum Scientific, Inc. (SSI) has expanded its deep and vacuum ultraviolet (DUV/VUV) optical coating capabilities with the installation of a McPherson VUVAS vacuum spectrophotometer. The system enables direct reflectance measurements from 115–380 nm under vacuum, eliminating atmospheric absorption and ensuring accurate, repeatable data.

The enhanced metrology capability strengthens SSI's ability to validate and optimize its high-performance coatings, which deliver up to 10% higher reflectivity than standard solutions. These gains directly improve throughput, sensitivity, and signal fidelity in DUV/VUV instruments—especially compact, multi-mirror designs where photon efficiency is critical.

SSI's coatings can be applied to aspheric mirrors, off-axis paraboloids, ellipsoids, and diffraction gratings across aluminum and glass substrates. They support demanding applications in VUV spectroscopy, chemical analysis, aerospace and defence systems, and space-based astronomy.

"The McPherson VUVAS allows us to verify coating performance with true vacuum-level accuracy," said David Cook, General Manager, Spectrum Scientific. *"It gives customers quantitative data they can design around with confidence."*

SSI continues to advance short-wavelength optical performance by combining coating expertise with scalable, high-precision replication technology.

If you'd like validated DUV/VUV coatings for your next instrument, message us or if you would like more information ssioptics.com and download our White Paper on *'How Unique Optical Coatings Boost Performance in the DUV and VUV'*.