



3-gratings for an optical spectrum from 8 to 2000 eV

Chelmsford, MA. For Immediate Release

Shallow 1.5 degree grazing incidence angle improves efficiency for high energy photons, wavelengths below 5 nanometers. Instrument now optimal for energies low as 8 eV (150 nanometers wavelength) and high as 2000 eV (0.6 nanometers).

High energy optical spectroscopy has a new “power tool.” For water window imaging, HHG laser spectroscopy, x-ray plasma diagnostics, extreme ultraviolet lithography, optical characterization, metrology and calibration the [McPherson Model 251MX](#) delivers uncompromising performance. The [Model 251MX](#) is easy to use and delivers results over the wide 0.5 to 150 nanometer range simply by indexing diffraction gratings. See detailed specifications on the data sheet.

The McPherson Model 251MX is optimized for high energy photons including soft x-ray and extreme UV (EUVL). The Model 251MX does not scan with point detectors, it works exclusively with microchannel plate intensifiers (MCP) and/or direct detection CCD array detectors. Regardless of type, the detector is located on a flat focal plane. The aberration correction provides flat field and straight spectral lines ideal for planar detectors and good spectral resolution. “We see many different types of applications” states Erik Schoeffel, Sales Coordinator at [McPherson](#). “Whether you have photoemission microscopy with light, low energy elements, a ultrafast high harmonic laser, a pulse probe experiment or need to diagnose a free electron laser or hot plasma, the aberration corrected 251MX quickly collect broad swaths of extreme ultraviolet.”

The McPherson [Model 251MX](#) diffractions gratings are from holographic masters and the laminar groove profile provide a useful feature. Laminar grating grooves have a profile that looks like a square wave. Laminar grating diffraction efficiency in even orders of light is lower than either sawtooth or sinusoidal profiles. This helps keep a high energy spectrum clean and more easily interpretable – especially at short wavelengths.

We deliver components as well as system-level solutions. Since the 251MX is vacuum-tight, we work with you to make sure coupling flanges, light collection optics, filters, and so on are considered and properly implemented. It is also available for ultra high vacuum (UHV), metal-sealed, 10E-10 Torr applications. Call or email today to learn how the Model 251MX fits your experiments.

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McPherson designs and manufactures scanning monochromators, flat field spectrographs, vacuum spectrometers and measurement systems for reflectance, transmittance, absorbance and more. It provides accessories like light sources, detectors, data acquisition software, sample chambers, telescopes and collimators. McPherson is a privately held corporation, founded in 1953 and based in Chelmsford, MA USA. For more information, visit www.mcphersoninc.com