

# Silicon Pore Optics

Silicon Pore Optics have been developed as the new generation, lightweight, high resolution X-ray optics. With a fully modular approach, lightweight SPO building blocks of 6x6 cm collect and focus X-rays at distances between 20 and 50 meters. These modules can be used to populate a large area X-ray lens. Developed for space based applications, these X-ray focusing modules are fully vacuum compatible, and mechanically stiff. They can be used in a large range of X-ray applications where focusing or collimation of X-rays is required (e.g. medical, semicon lithography, synchrotron sources).

Applications of Silicon Pore Optics are found in:

## Short wavelength lithography

Accurately collimating or focusing beams of ever shorter wavelength is a challenge in the semiconductor industry. Large area X-ray optics are generally heavy and bulky, making them difficult elements to move or align. This problem could be overcome by using the stiff, lightweight Silicon Pore X-ray Optics.

## Medical X-ray imaging

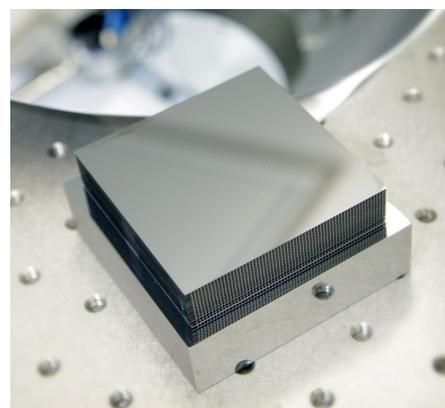
In most medical applications the high energy photons used to image soft and hard tissues are not collimated or focused. By focusing or collimating the X-rays, sharper images can be produced, improving the diagnostic accuracy the X-ray imaging tools.

## Synchrotron X-ray radiation

Synchrotron X-ray sources are extremely efficient tools for scientific research. To achieve the best possible scientific results, the X-ray beams produced by synchrotrons have to be focused, expanded, or collimated with the most accurate optics possible. With an angular resolution of less than 5", the Silicon Pore Optics offer a world class large area X-ray optic for synchrotron or laboratory X-ray sources.

**Silicon Pore Optics: The world's lightest high resolution X-ray optics.**

Silicon Pore Optics	
Module Mass	~ 0.14 kg
Effective area	2200 mm <sup>2</sup>
Outer dimensions	66x66x54 mm
IXO	
Focal length	20 m
radius	250 to 1900 nm
Optical configuration	Wolter I
Spatial Resolution	< 5 "
Collecting area	> 3 m <sup>2</sup> @ 1 keV
# of SPO modules	~ 2000
Other applications	
	Medical
	Lithography
	Synchrotron
	Your application?



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