Monocrystalline silicon X-ray photosensitive technology

This paper presents an overview of our manufacturing process for high-precision x-ray mirror substrates and provides an update on recent developments.

Second, large blocks of mono-crystalline silicon have become readily and inexpensively available. Taking advantage of the grazing incidence geometry of X-ray optics, the new polishing ...

The lightweight mirror segments, efficiently manufactured from blocks of commercially available monocrystalline silicon, are coated, aligned, and fixed in modular form.

Higher requirements for monocrystalline silicon x-ray mirrors have been put forward with the development of synchrotron radiation optics. The existing processing technologies limit their...

Monocrystalline silicon is an excellent X-ray mirror substrate material due to its high stiffness, low density, high thermal conductivity, zero internal stress, and commercial availability.

Silicon Pore Optics (SPO) uses commercially available monocrystalline double-sided super-polished silicon wafers as a basis to produce mirrors that form lightweight high-resolution X ...

Our approach is based on the precision polishing of mono-crystalline silicon to fabricate thin and lightweight X-ray mirrors of the highest figure quality and micro-roughness, therefore, having the ...

Article: Fabrication of lightweight monocrystalline silicon mirror segments to enable high resolution x-ray telescopes

The use of monocrystalline silicon as a nearly ideal substrate was presented, and the present version of our x-ray mirror manufacturing process was reviewed. Our group regularly produces mirrors having ...

Producing highly accurate and lightweight x-ray mirrors from monocrystalline silicon requires a unique and specialized manufacturing process capable of producing mirrors quickly and ...

Monocrystalline silicon X-ray photosensitive technology

Web: https://www.csc-energia.com.pl