Silicon pore optics have been developed over the last years to enable future astrophysical X-ray telescopes and have now become a candidate mirror technology for the IXO mission. Scientific requirements demand an angular resolution better than 5" and a large effective area of several square meters at photon energies of 1 keV.

These novel light, stiff and modular X-ray optics, are based on ribbed plates made from commercial high grade 12" silicon wafers. Stacks with several tens of silicon plates have been assembled in the course of an ESA technology development program, by bending the plates into an accurate shape and directly bonding them on top of each other.

Several mirror modules, using two stacks each, have been aligned and integrated to form the conical approximation of a Wolter-I design.


