

GXI-1

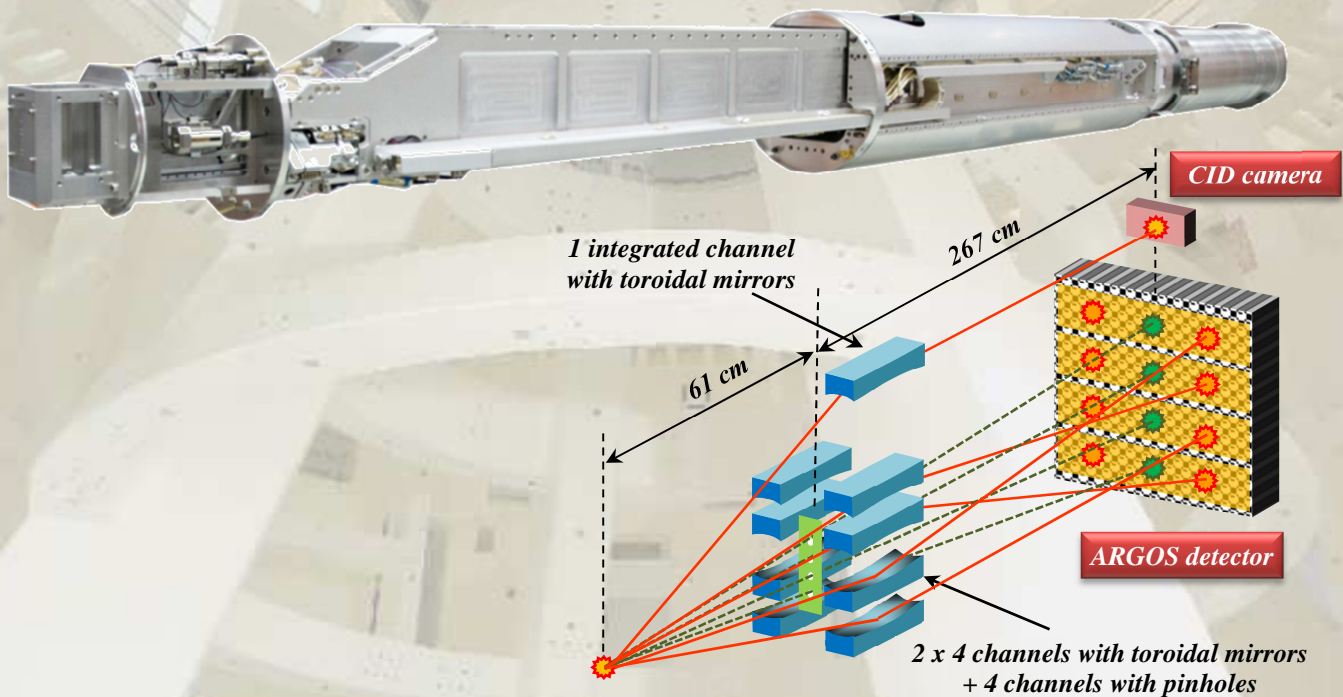
Gated X-ray Imager 1

The X-ray imager GXI-1 records time-resolved 2D image in the hard X-ray spectral region. It is dedicated to X-ray radiography of target motion and to hard X-ray target emission.

The GXI-1 incorporates a microscope with large source-to-optic distance and a large size gated micro channel plate detector. The microscope includes twelve X-ray channels: eight consisting of grazing angle-of-incidence mirrors and a filter, and four straight-through channels consisting of pinholes with a filter. Each image of the twelve X-ray channels is produced along four micro channel striplines (ARGOS detector).

GXI-1 also includes a three-film protective holder to protect optical components from damages caused by target debris and UV radiation. A filter holder is dedicated to select a broad band energy range on each column of four images on the detector. A CID camera, implemented close to the main detector, monitors X-ray emission with time integration and also controls internal alignment of the diagnostic. A photoconductive detector with a fast time response is mounted close to the framing camera to provide a fiducial.

GXI-1 is set up in the target chamber by a SID (System for Insertion of Diagnostics).



Characteristics	Spectral range	Spatial resolution (μm) / Field of view (mm)	Time resolution (ps) / Dynamic (ns)	Setting/Operational
Magnification = 4.3				SID
2x4 time-resolved toroidal mirror channels	0.5 - 10 keV	35 / 3	110 - 130 / 20	
4 pinhole channels	2 - 15 keV	40 / 3	110 - 130 / 20	2014
1 time-integrated mirror channel	0.5 - 10 keV	50 / 5	without	