

## SSXI

## Streaked Soft X-ray Imager

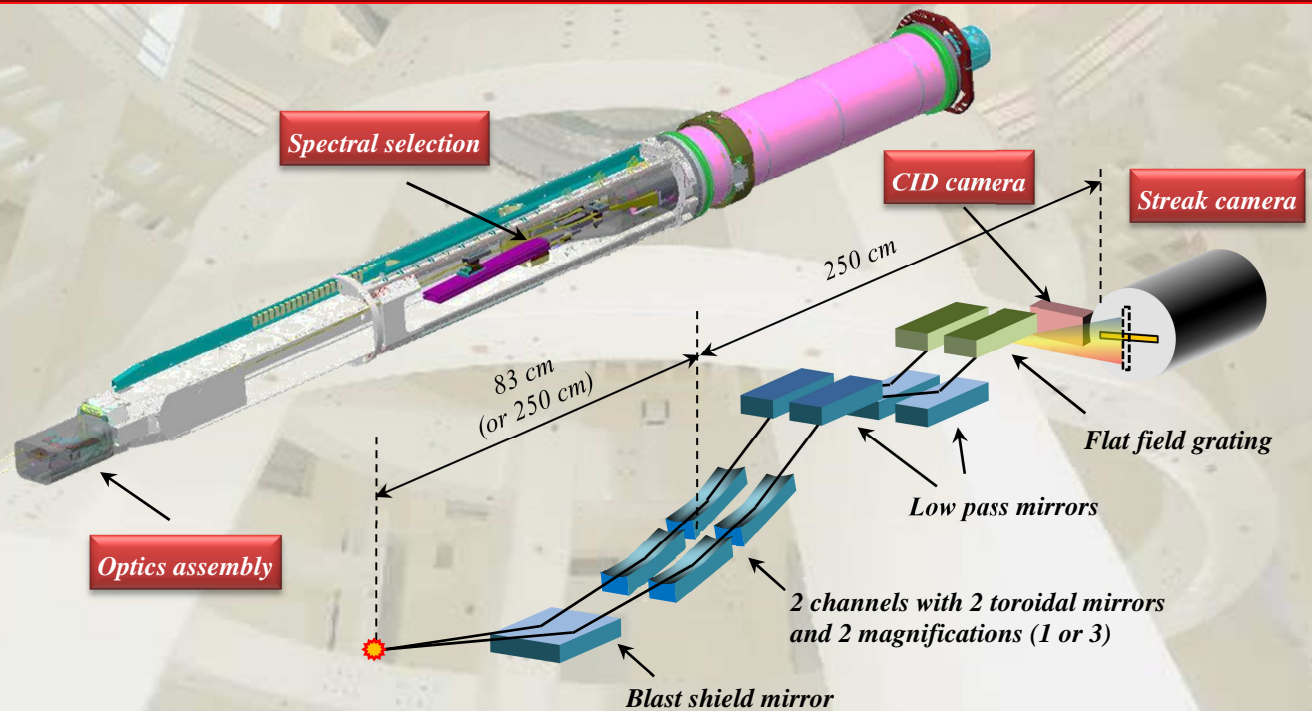
The streaked soft X-ray imager, SSXI, records time-resolved 1D image or time / space-resolved spectra in the soft X-ray spectral region. It is dedicated to analysis of radiative waves (propagation, burn-through, etc.) and soft X-ray target emission.

It consists of the association of an optics assembly and a spectral selection device. As no filter can be used due to soft X-ray bandwidth, the optical scheme of the diagnostic is entirely based on grazing incidence optics.

The optics assembly is composed of a blast shield which is a large flat mirror, with grazing incidence, that can be shifted shot after shot, and an X-ray microscope with two channels made of two toroidal mirrors for improving spatial resolution.

The spectral selection is provided by two low-pass mirrors combined with a reflective flat field grating. Depending on the orientation of the streak camera on the central channel, 1 temporally and spectrally resolved X-ray image or 1 temporally and spatially resolved X-ray spectra will be acquired, together with 1 time integrated image (for the second channel).

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



Characteristics	Spectral range	Spatial resolution ( $\mu\text{m}$ ) / Field of view (mm)	Time resolution (ps) / Dynamic (ns)	Setting/Operational
Magnification = 1 or 3				SID
1 time-resolved bi-toroidal mirror channel	0.05 – 1.5 keV	30 / 5 or 50 / 15	17 / 2 to 120 / 25	
1 time-integrated bi-toroidal mirror channel	0.05 – 1.5 keV	30 / 5 or 50 / 15	without	2017
Spectral selection by grating				