

## ASTROSAT - Payload Characteristics

	UVIT	SXT	LAXPC	CZTI	SSM
Detector	Intensified CMOS, used in photon counting mode or integration mode	X-ray (MOS) CCD (at the focal plane)	Proportional counter	CZT detector array	Position-sensitive proportional counter
Imaging / non-imaging	imaging	imaging	non-imaging	imaging	imaging
Optics	Twin Ritchey-Chretien 2 mirror system.	Conical foil (~Wolter-I) mirrors 2-m focal length	Collimator	2- D coded mask	1- D coded mask
Bandwidth	FUV (130-180 nm), NUV (200-300 nm), VIS (320-550 nm)	0.3 - 8 keV	3 - 80 keV	10 - 100 keV	2.5 - 10 keV
Geometric Area (cm <sup>2</sup> )	~1100	~ 250	10800	976	~ 180
Effective Area (cm <sup>2</sup> )	10 - 50 (depends on filter)	128@1.5 keV 22@6 keV	8000@5-20 keV	480 (10-100 keV, normal incidence)	~11 @ 2 keV ~53 @ 5 keV for all 3 SSMs
Field of View (FWHM)	28' dia	~ 40' dia	1° x 1°	4.6° x 4.6°	10° x 90°
Energy Resolution	<1000 A (depends on filter)	~5-6%@1.5 keV ~2.5%@6keV	12%@22 keV	6% at 100 keV	25% @ 6 keV
Angular Resolution	1.8 arcsec (FUV, NUV) 2.2 arcsec (Vis)	~2 arcmin (HPD)	~(1-5) arcmin (in scan mode only)	8 arcmin	~12 arcmin
Time resolution	1.7 ms	2.4 s, 278 ms	10 microsec	20 microsec	1 ms
Typical observation time per target.	30 min	0.5 - 1 day	1 - 2 days	2 days	10 min
Sensitivity (Obs. Time)	Mag. 20 (5 $\sigma$ ) 200 s (for 130-180 nm)	~15 $\mu$ Crab (5 $\sigma$ ) (10000 s)	1 milliCrab (3 $\sigma$ ) (100 s)	0.5 milliCrab (3 $\sigma$ ) (10000s)	~28 milliCrab (3 $\sigma$ ) (600s)
No. of Units	2	1	3	1	3
Total Mass (kg)	230	65	414	50	48
Total Power (W)	85 (pk 117)	80	65	70	30
Sun-avoidance angle	45 deg	> 45 deg	30 deg	30 deg	30 deg from edge of FOV
Prime responsibility	IIA	TIFR	TIFR	TIFR	ISAC