

XRT (X-Ray Telescope)

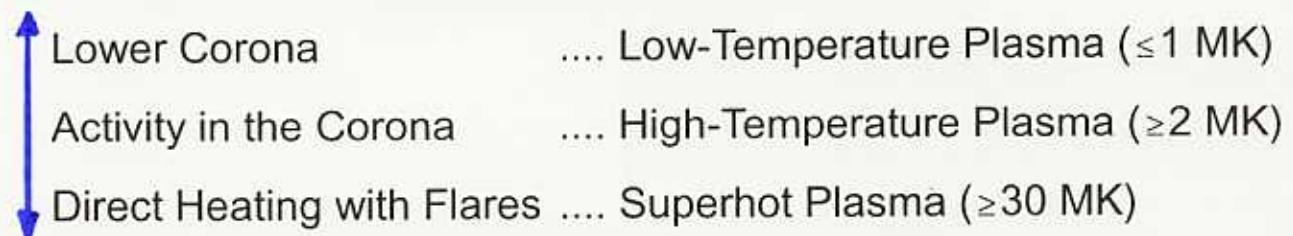
- Grazing incidence optics
Wide FOV / High spatial resolution imaging
- Continuous temperature coverage from 1 MK – > 20 MK
... Temperature maps of the corona
- J-US collaboration
Japan ... Focal plane CCD camera
US ... Telescope structure and optics
Filter/shutter mechanism (SAO)

Key Items

- Grazing incidence optics (Walter I-like)
- Angular resolution
RMS Blur diameter $< 1''$ for $r \sim 9'$ around the optics axis
- FOV ... Can cover the entire solar disk
- Wavelength ... $\sim 2 \text{ \AA} - \sim 200 \text{ \AA}$
- Temperature range
1 MK – > 20 MK
(select focal-plane thin metal filters)
- Cadence ... typ. every $\gtrsim 2 \text{ s}$

Observations with XRT

■ Continuous Coverage of Coronal Temperatures



—→ Temperature structure of the Corona and its evolution

■ High Angular Resolution (1") v.s. Wide FOV (full Sun)

- "Direct" response to photospheric behavior
- Activity associated with energy storage/release in the Corona
- Magnetic structure in charge of Coronal activities and its relationship with "steady" magnetic structure

■ Long-Term, Uninterrupted Observation (Sun-Synchronous Orbit)

- Emerging-flux activity and AR evolution
- Pre-flare activity
- Filament activity (eruption) } Trigger and evolutionary process

Status of XRT Development

Mechanical/Thermal Test Model

- MTM/TTM fabricated
- XRT MTM/TTM Tests at GSFC about to start
 - TTM Test from 2002 Jan 24
 - MTM Test from End February, 2002
- MTM/TTM delivery to Japan around the end of March, 2002
- System MTM/TTM Tests at ISAS follows

Electrical

- PM Electrical Tests conducted at ISAS in July – September, 2001
- Improvement of Hardware/Software ongoing.
- Joint MDP-XRT test planned in summer 2002 at ISAS

About to: FM design fix / fabrication start

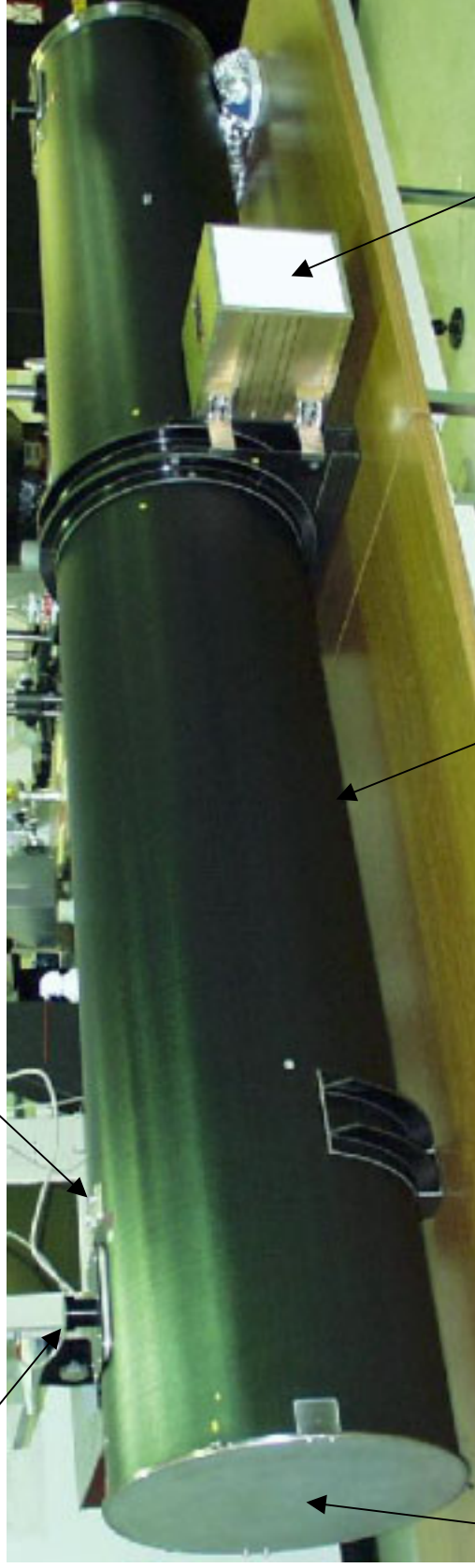


XRT MTM/TTM



**Electrical
Feed-Thru**

**Ascent
Vent**



E-Box

Graphite Tube

Front Door

