

# Chandra X-ray Observatory Overview



**Dan Schwartz**

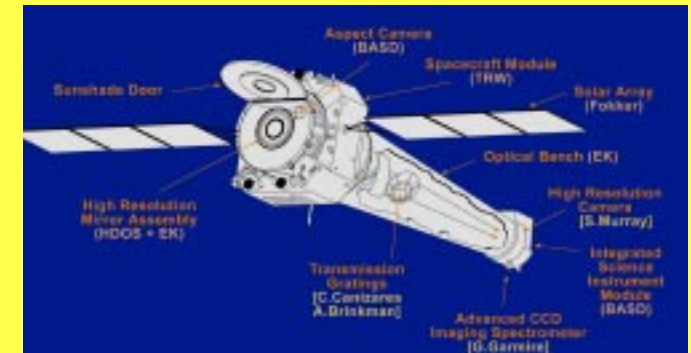
**Smithsonian Astrophysical Observatory**

**CIAO Workshop**

**28 October 2003**

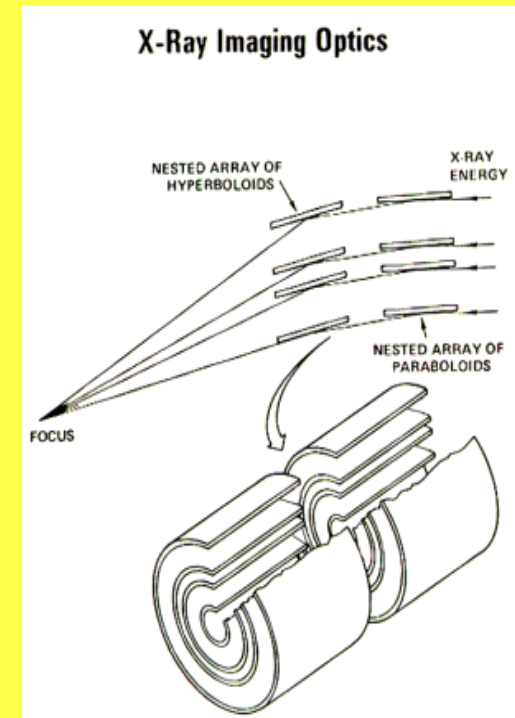
# Development of the Observatory

- **Observatory Overview**



- **High Resolution Telescope**

- Sensitivity to point sources
- High spectral resolution with gratings
- Detailed spatial structure
- High dynamic range for spatial structure

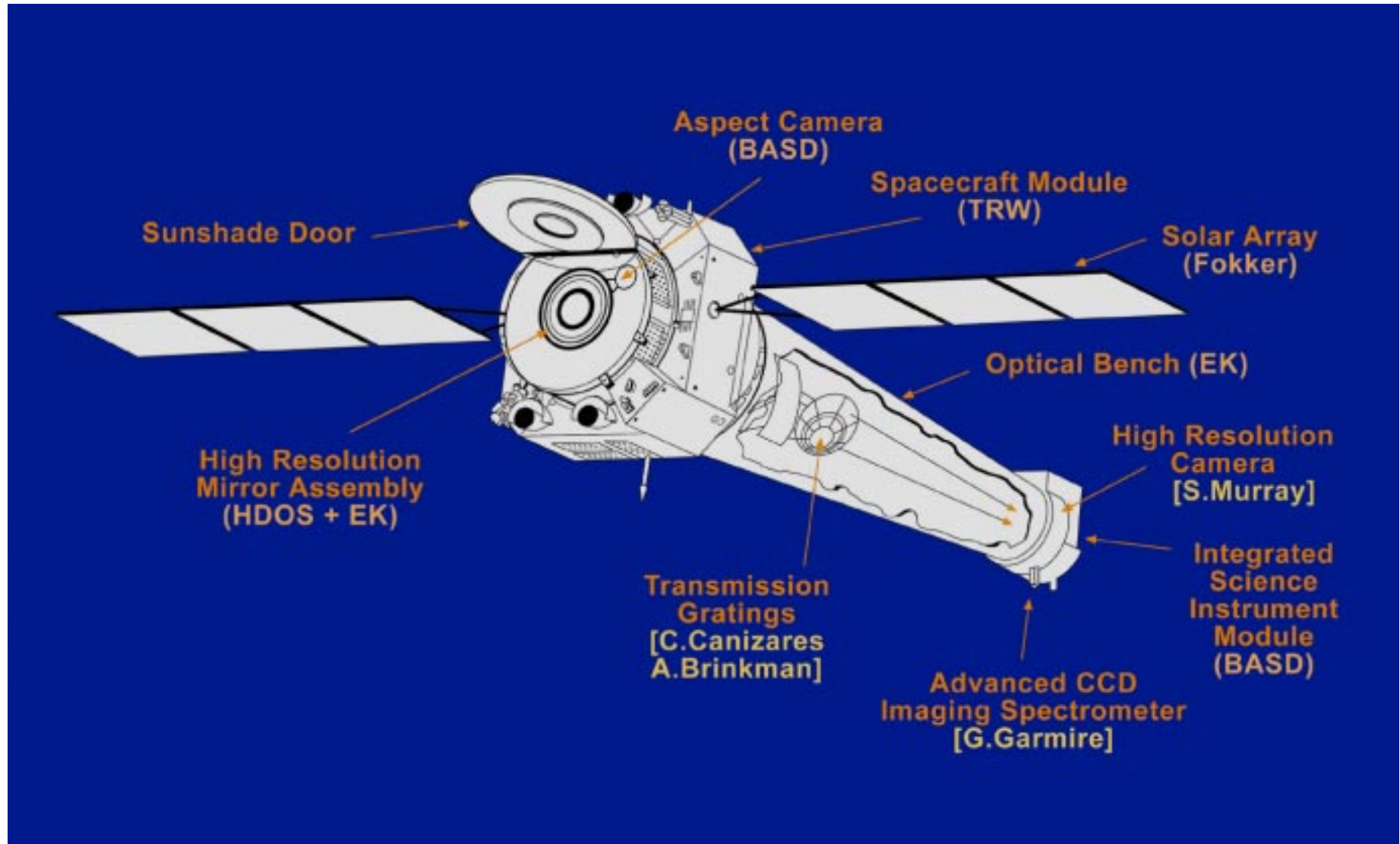


- **From Launch to the (Three) First Lights**



# Chandra X-Ray Observatory

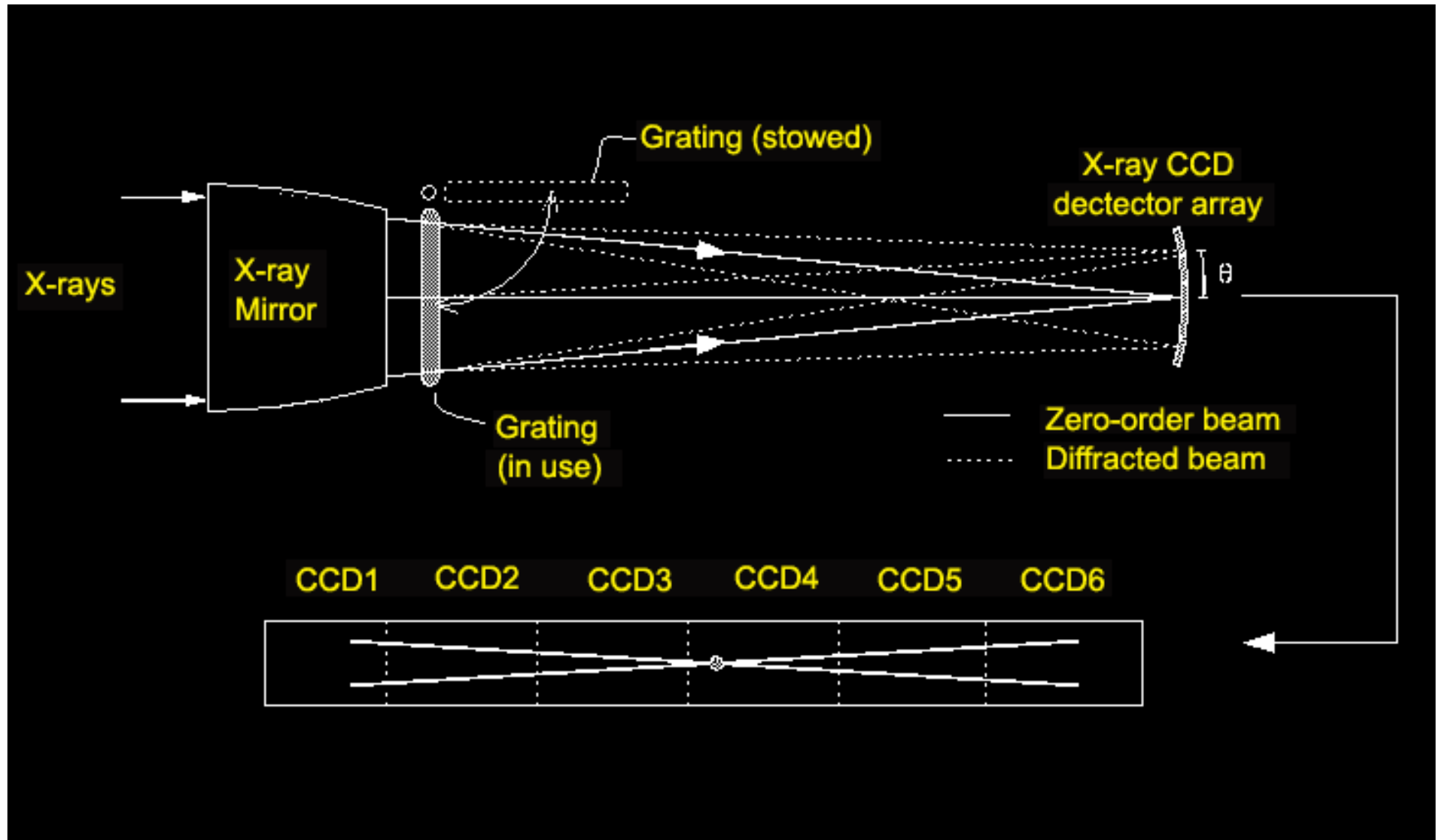
## Chandra Spacecraft





# Chandra X-Ray Observatory

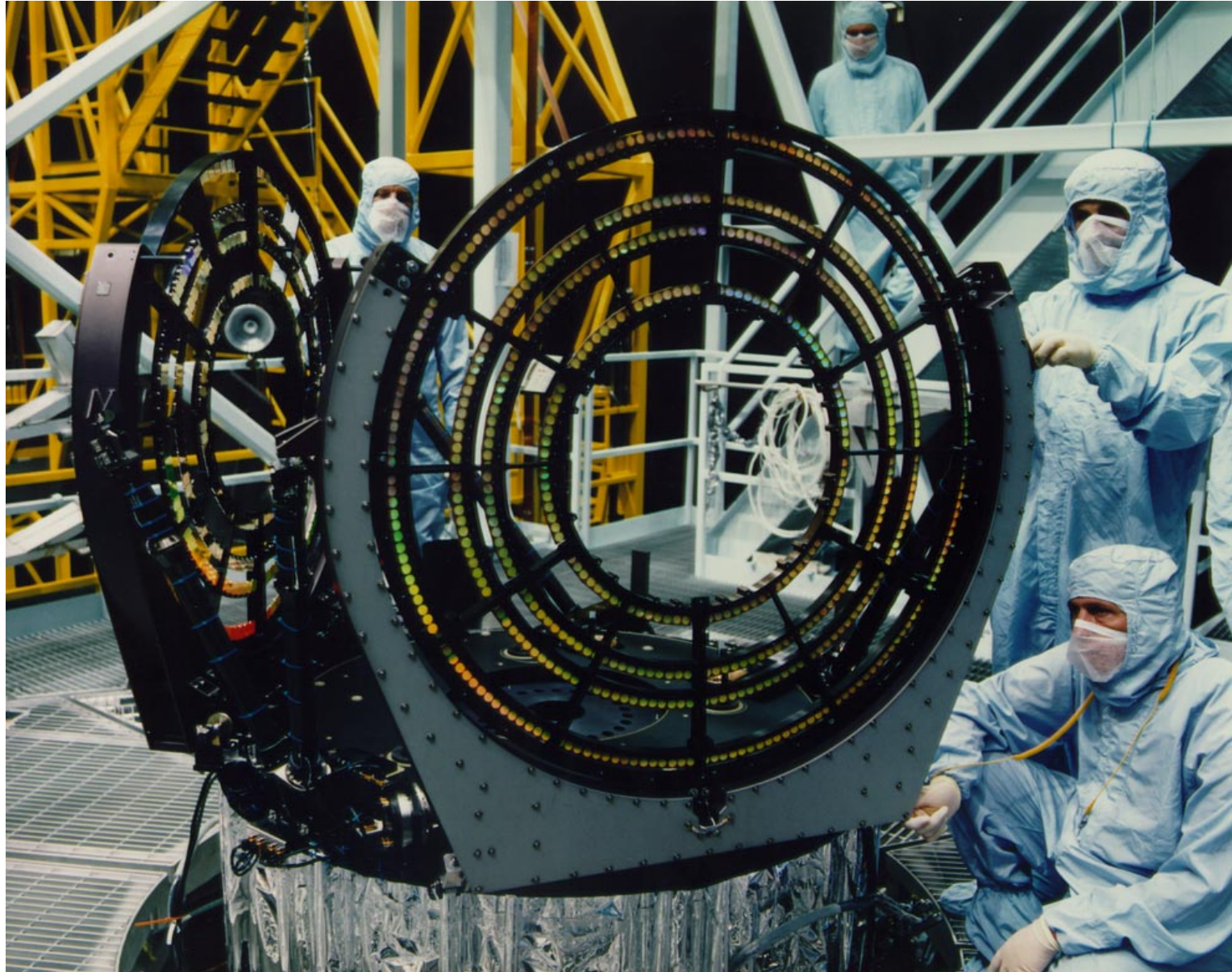
## Grating System Schematic





# Chandra X-Ray Observatory

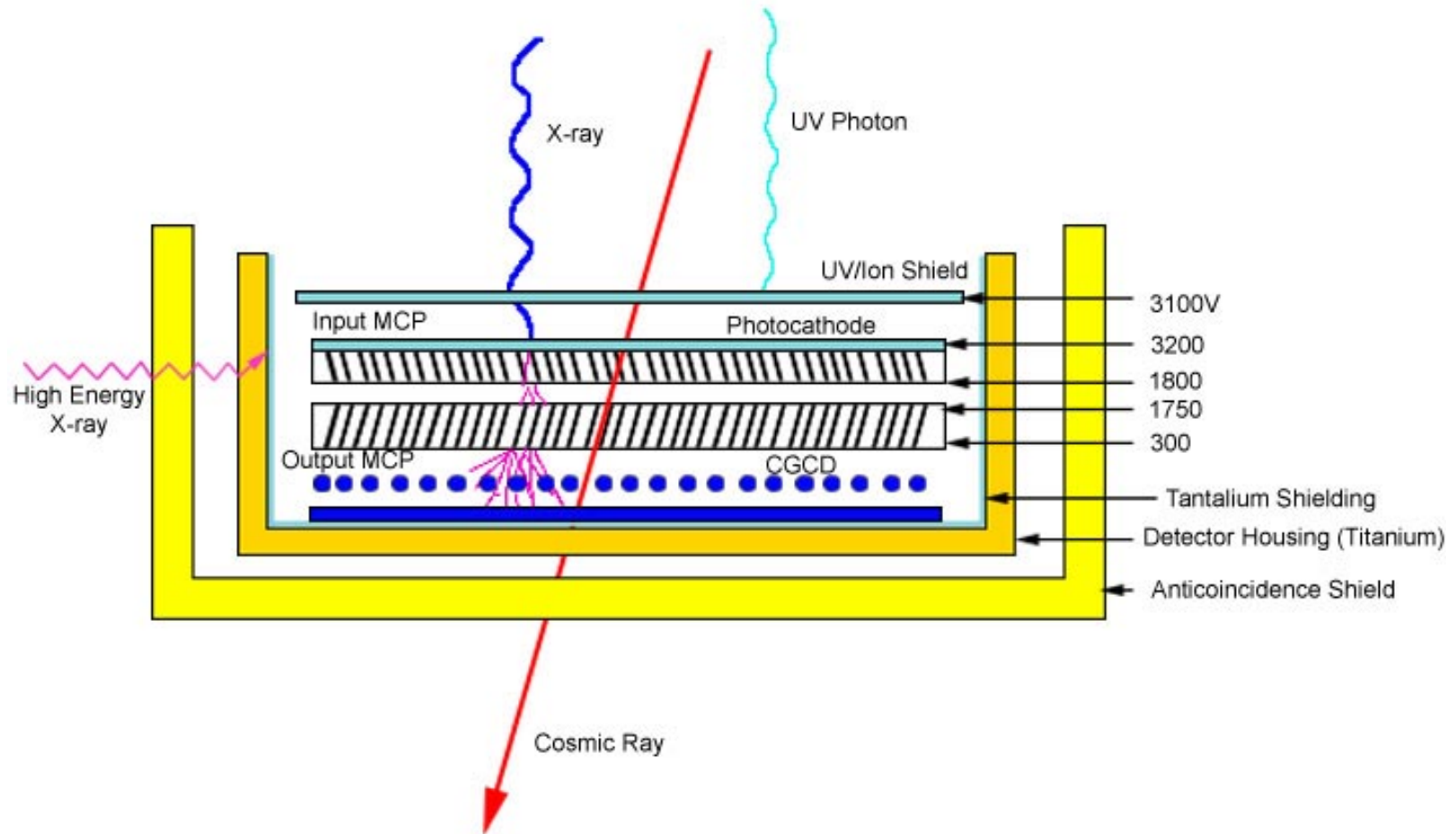
## High- and Low-Energy Gratings





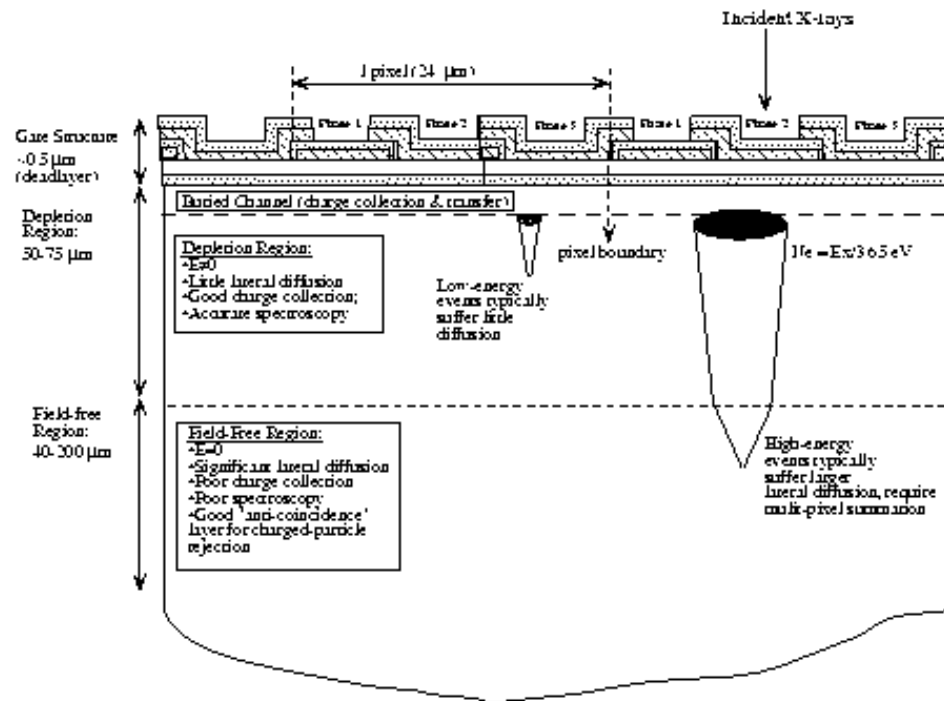
# Chandra X-Ray Observatory

## HRC Schematic



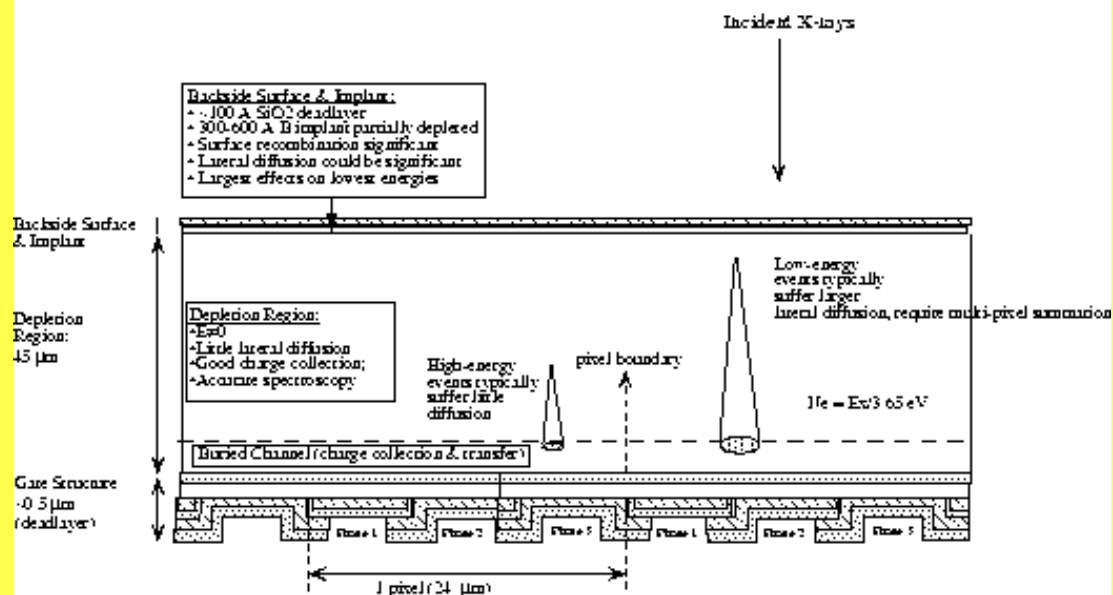
## Front-Illuminated X-ray CCD Structure

(not to scale)



## Back-Illuminated X-ray CCD Structure

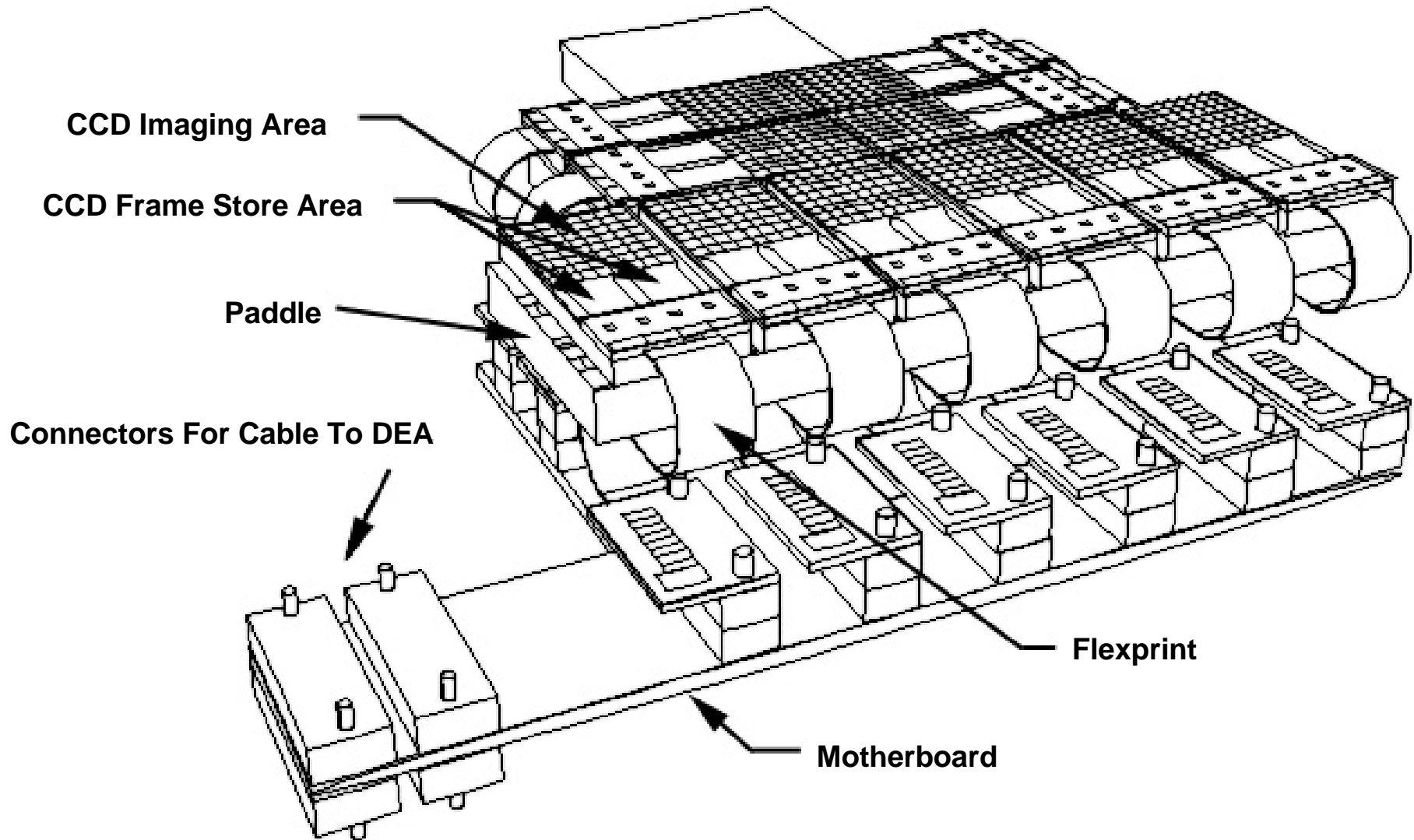
(not to scale)





# Chandra X-Ray Observatory

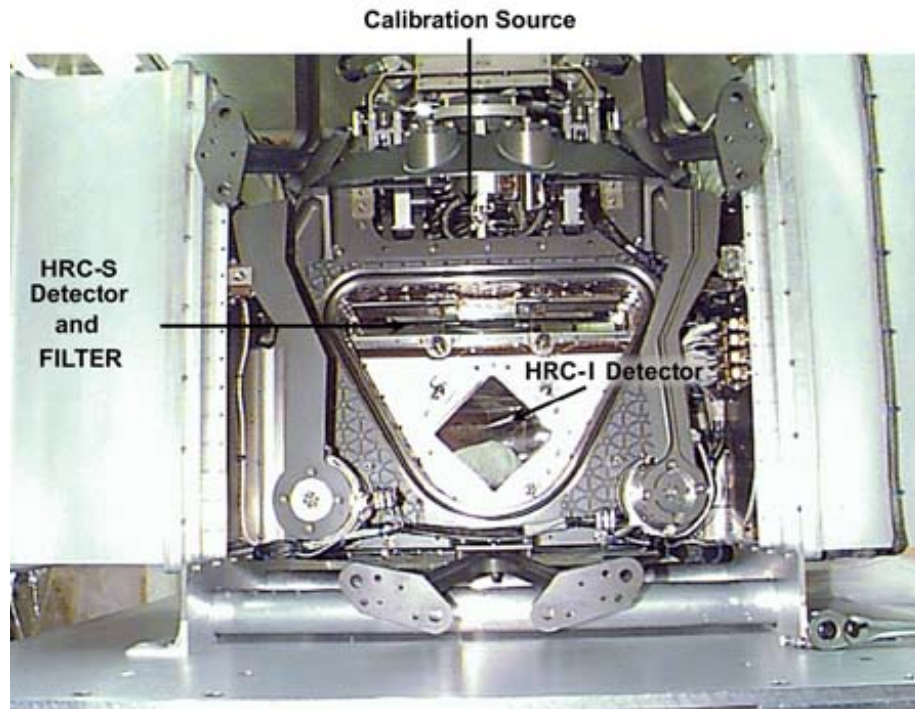
## ACIS Schematic



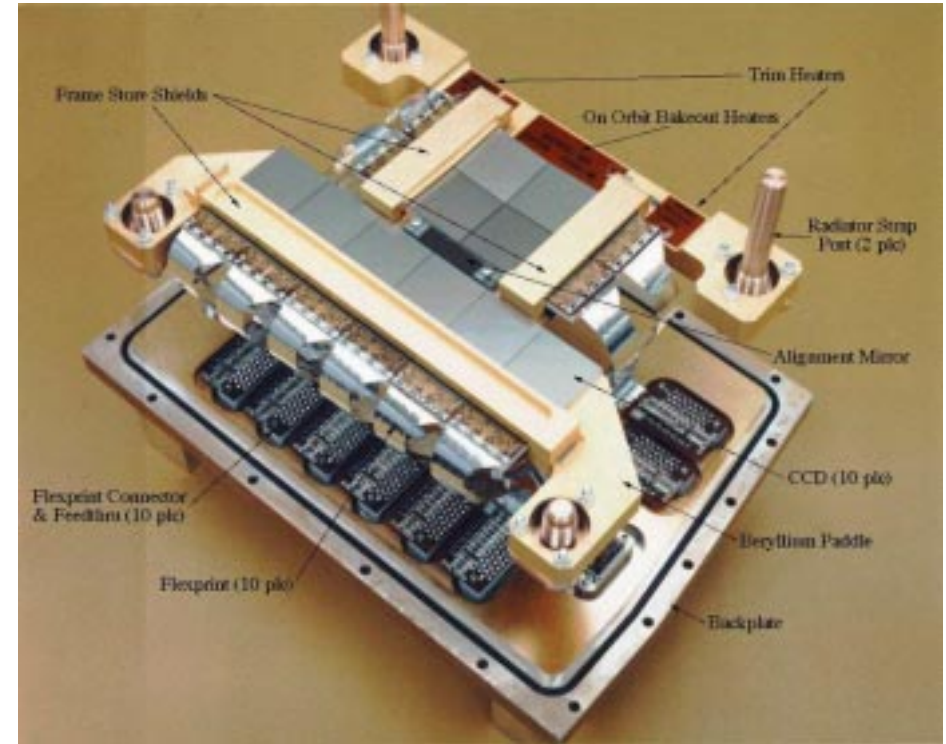




# Chandra X-Ray Observatory

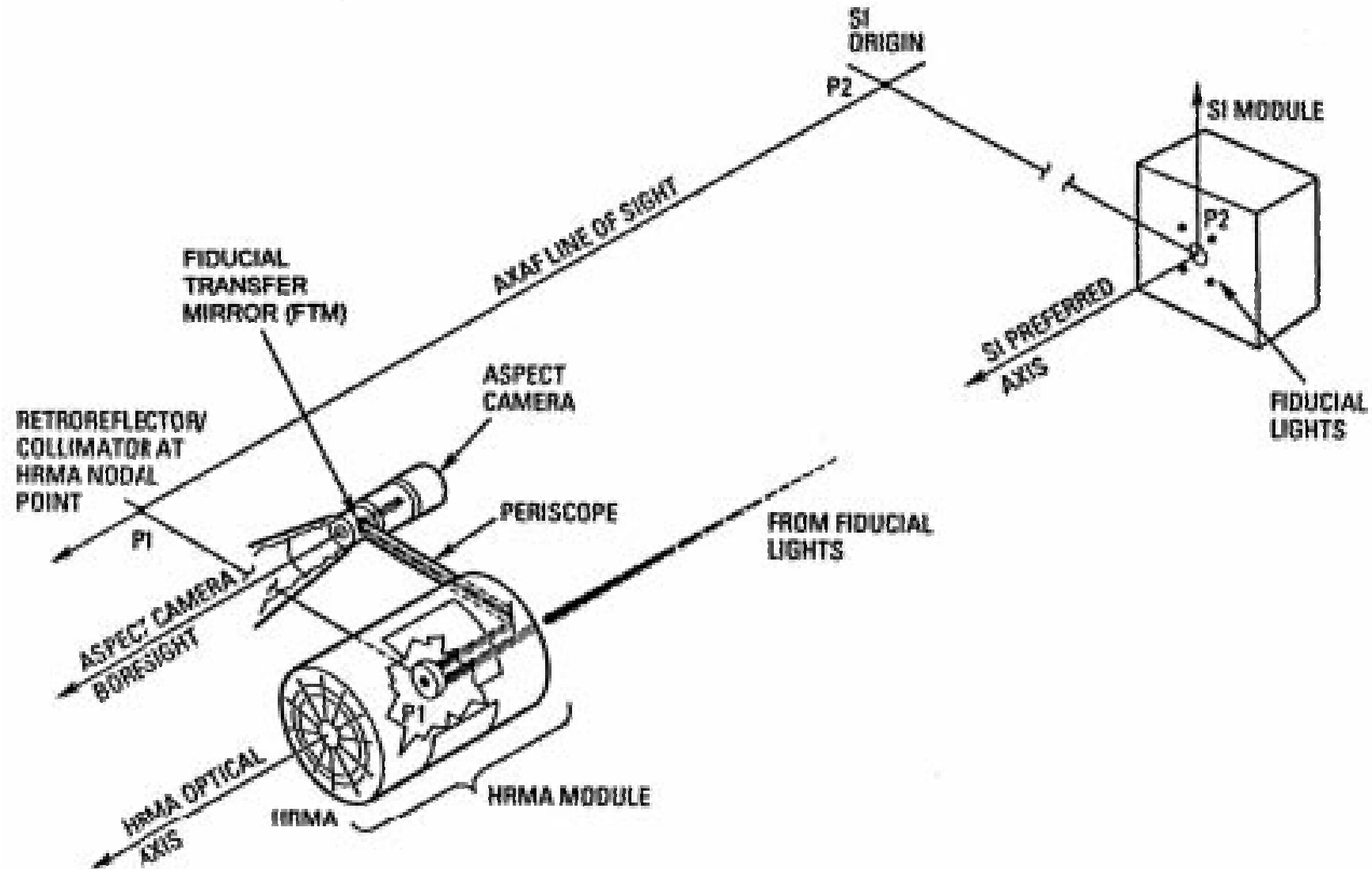


HRC Detector

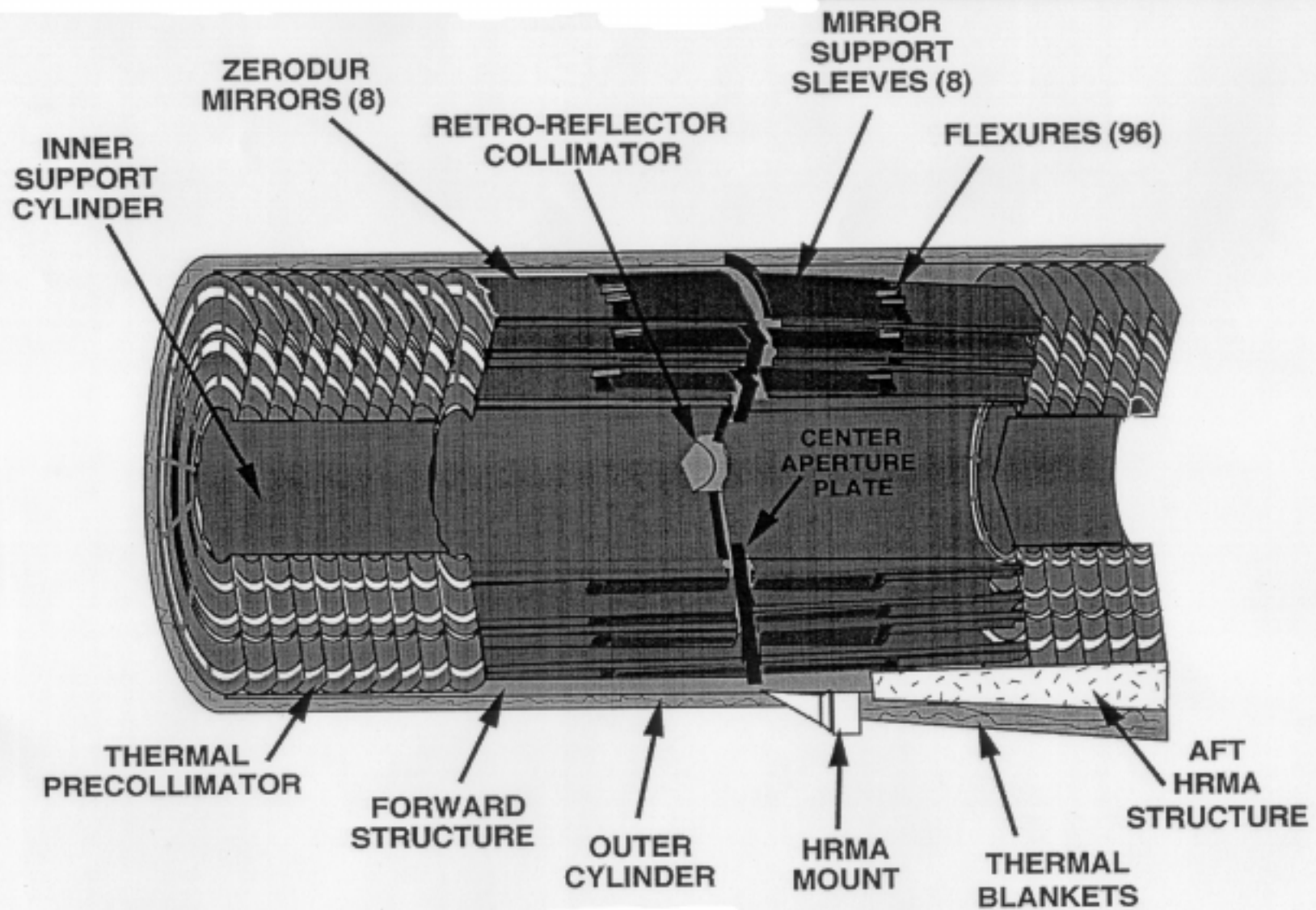


ACIS Detector

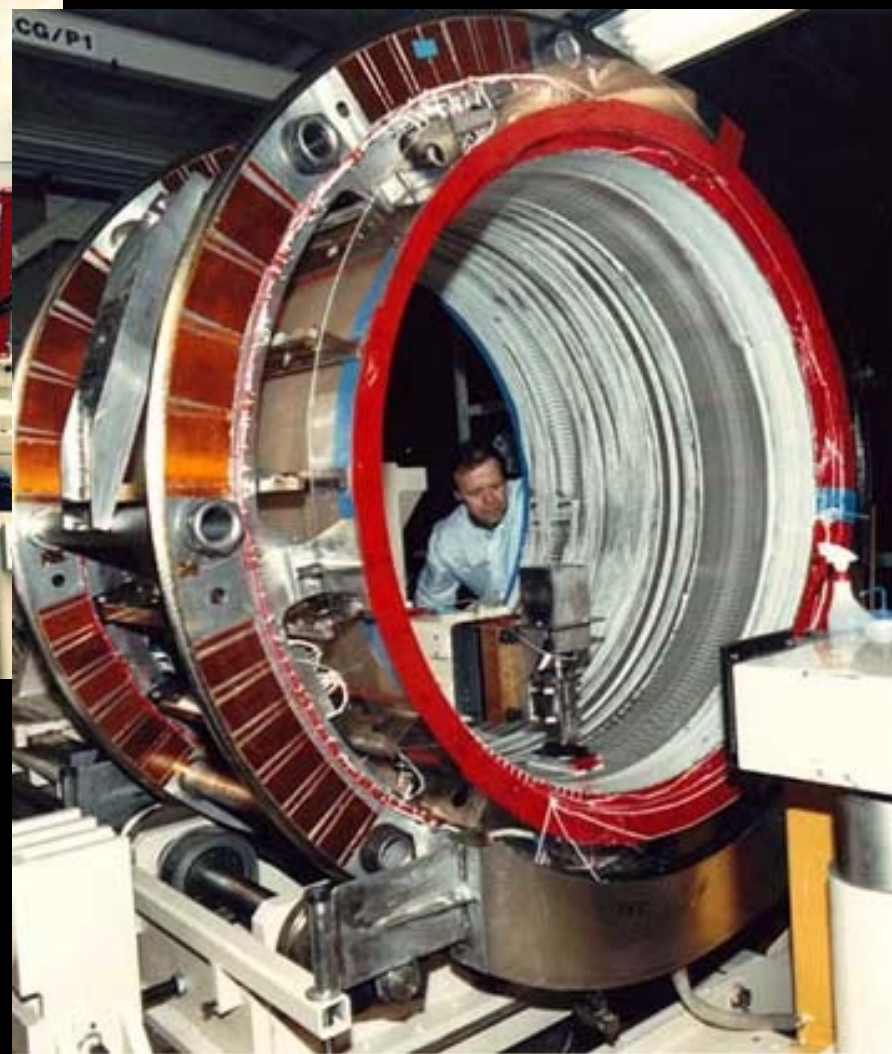
# Aspect Camera and Fiducial Transfer System



# HRMA and Associated Structures



# Chandra: Mirror Polishing



# Coated Mirror



# Chandra: Mirror Assembly



# Calibration Facility

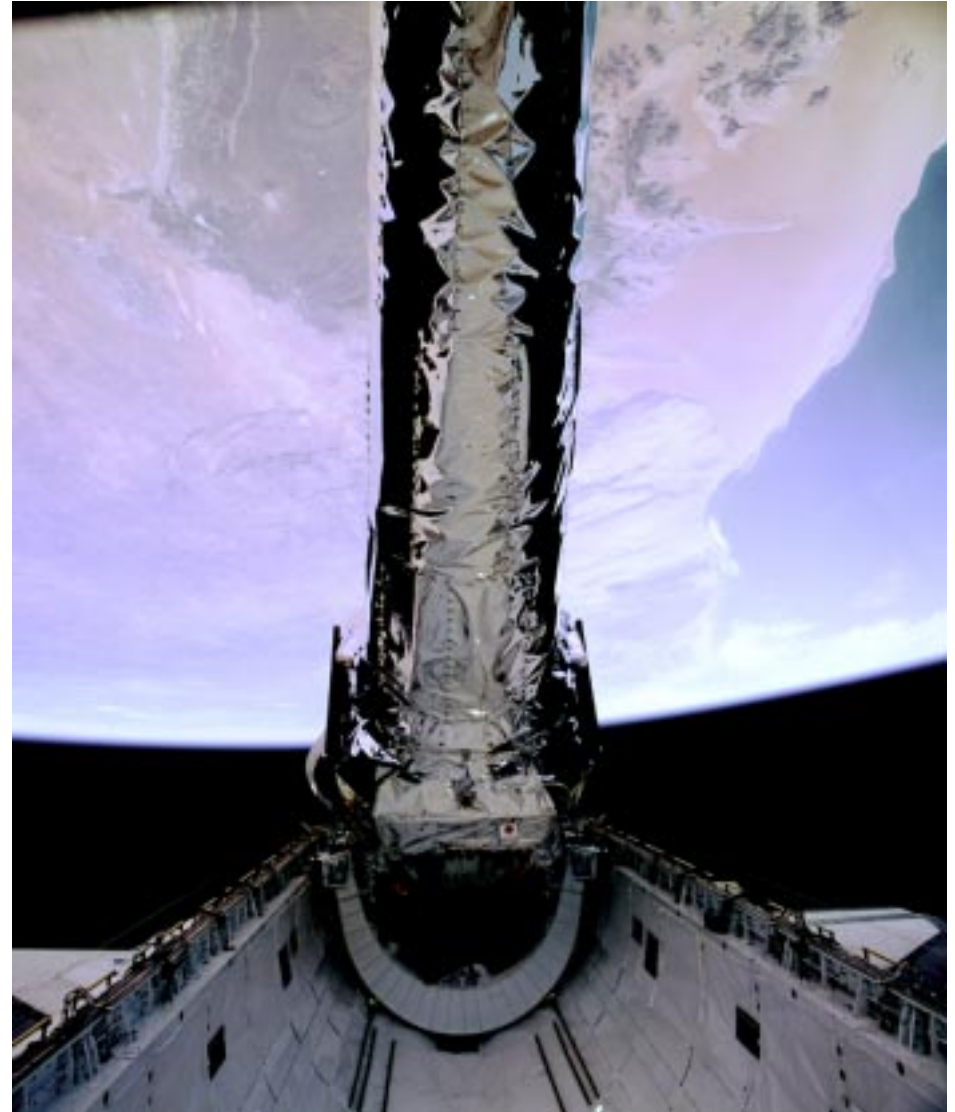




# Chandra X-Ray Observatory

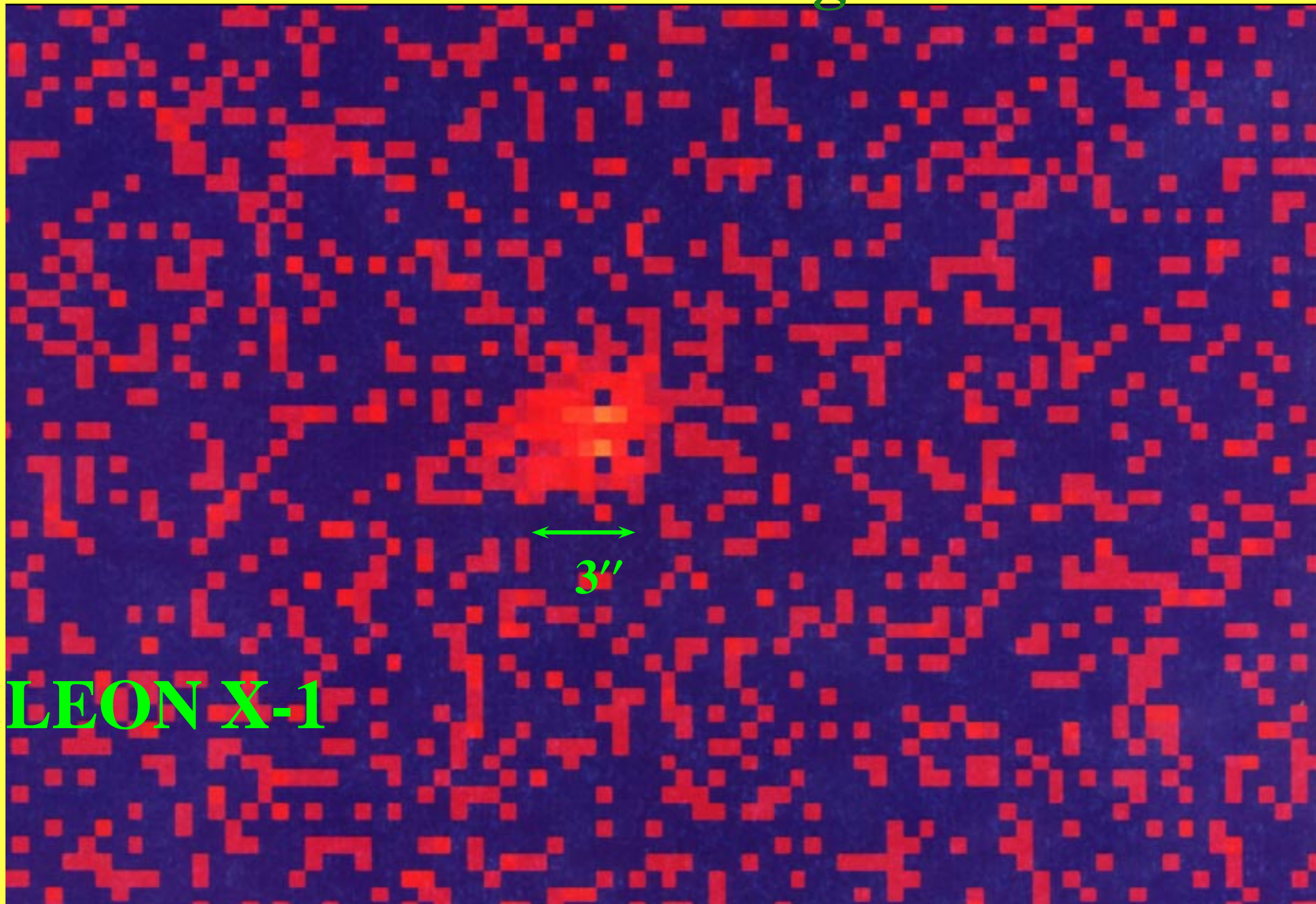
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## Launch & Deploy



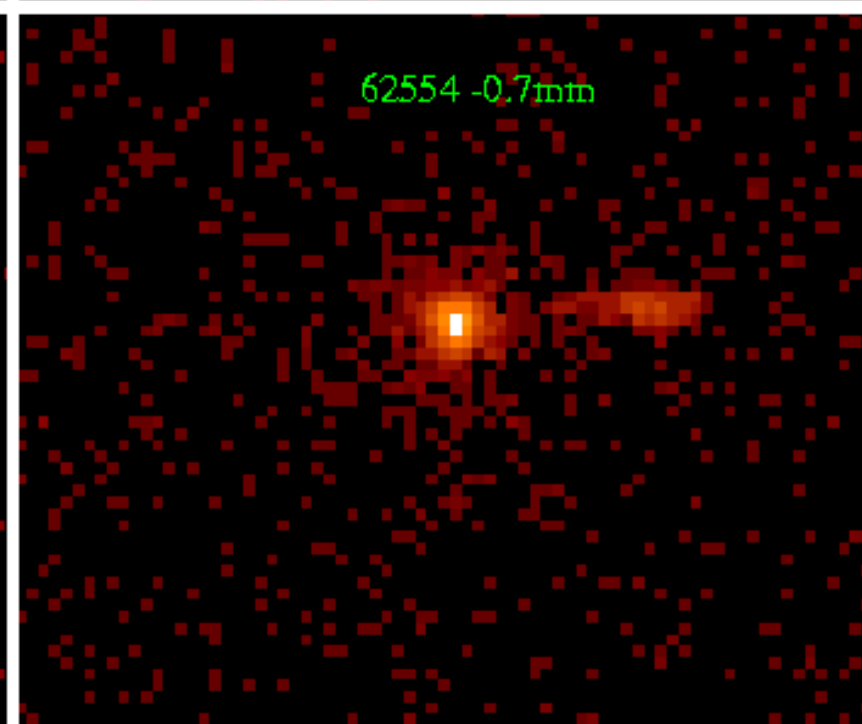
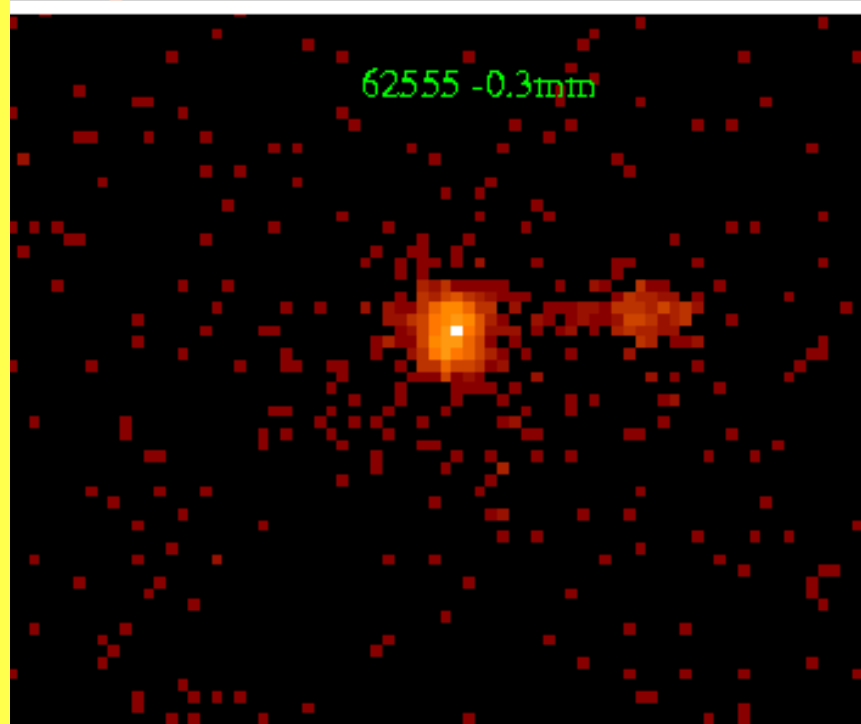
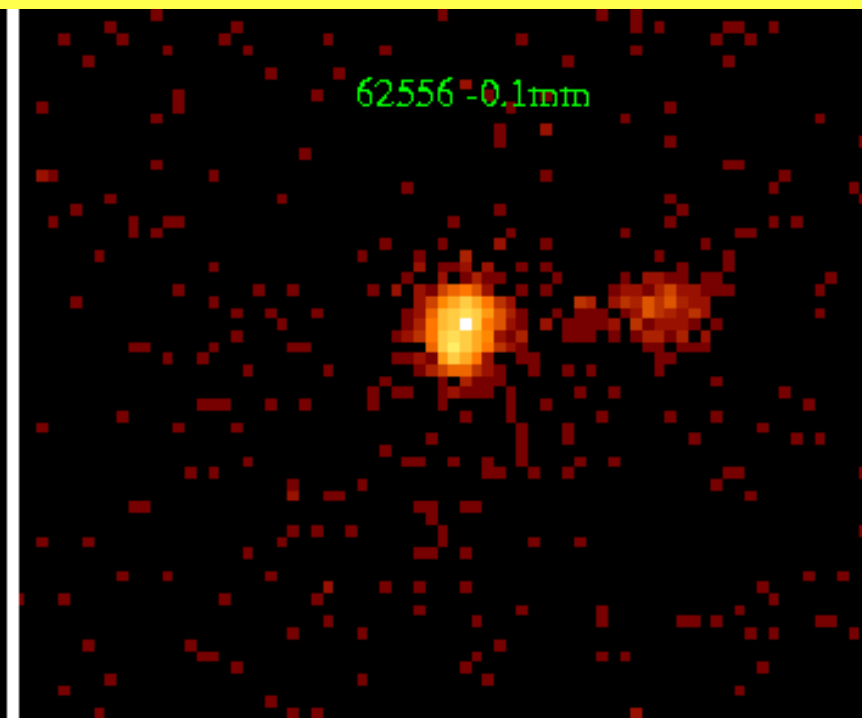
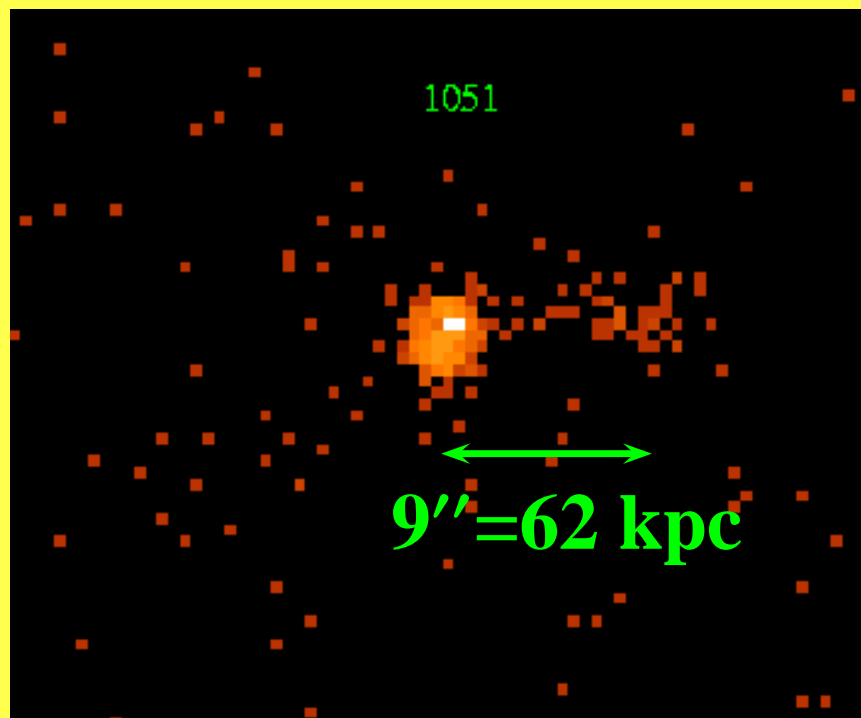


# True First Light



LEON X-1

# Focus on a “Point” Source



# Focus on a "Point" Source

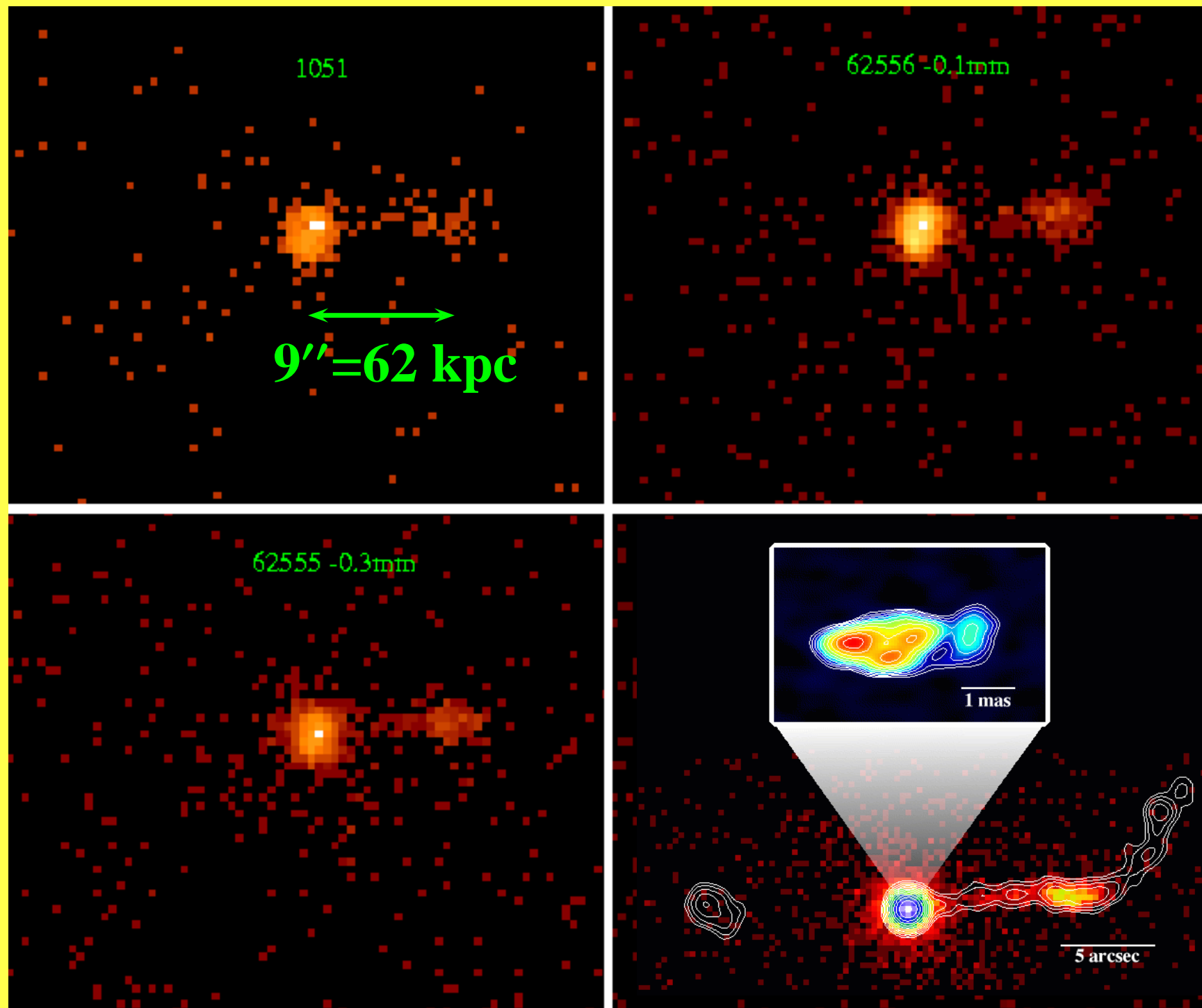
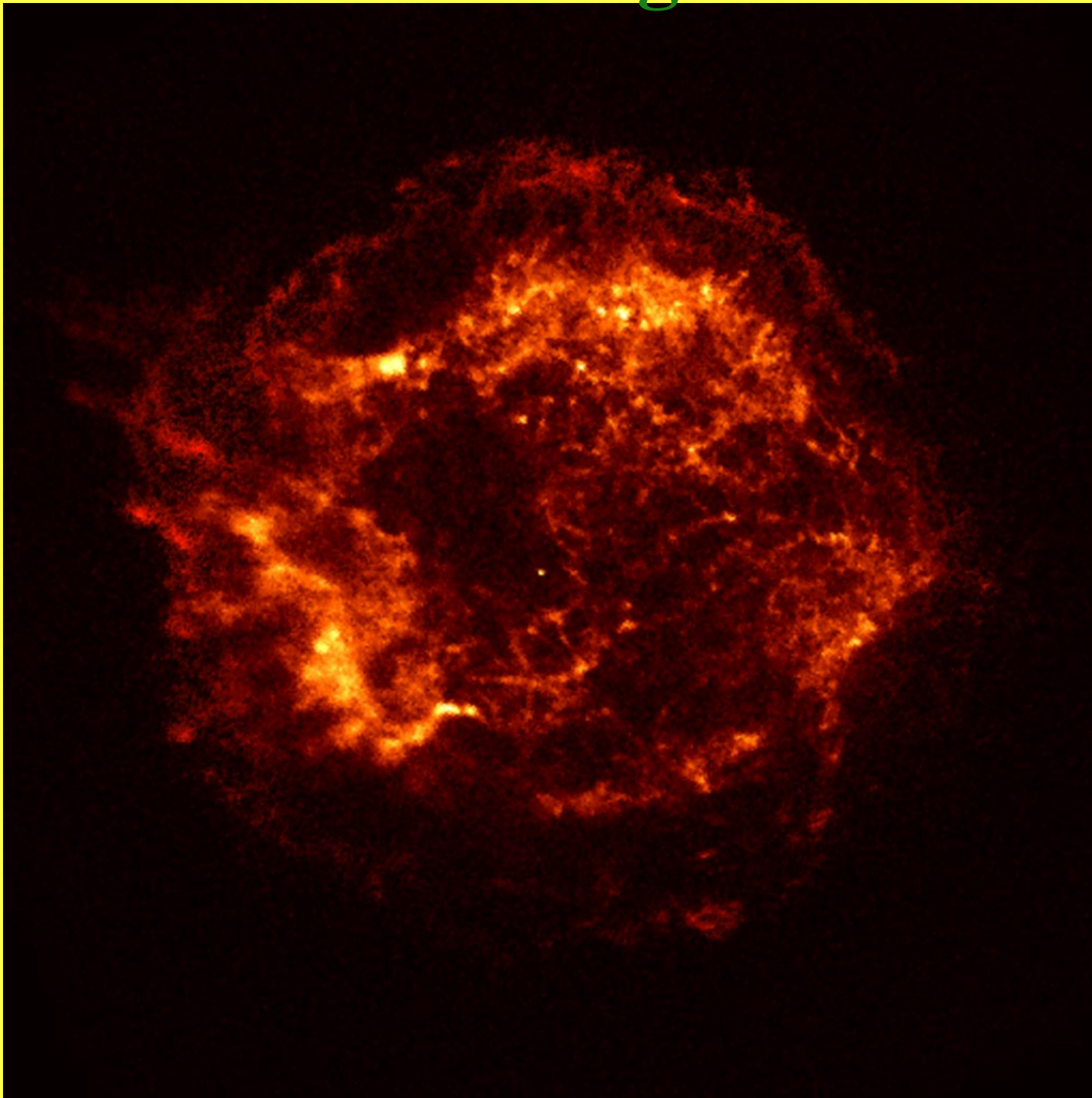
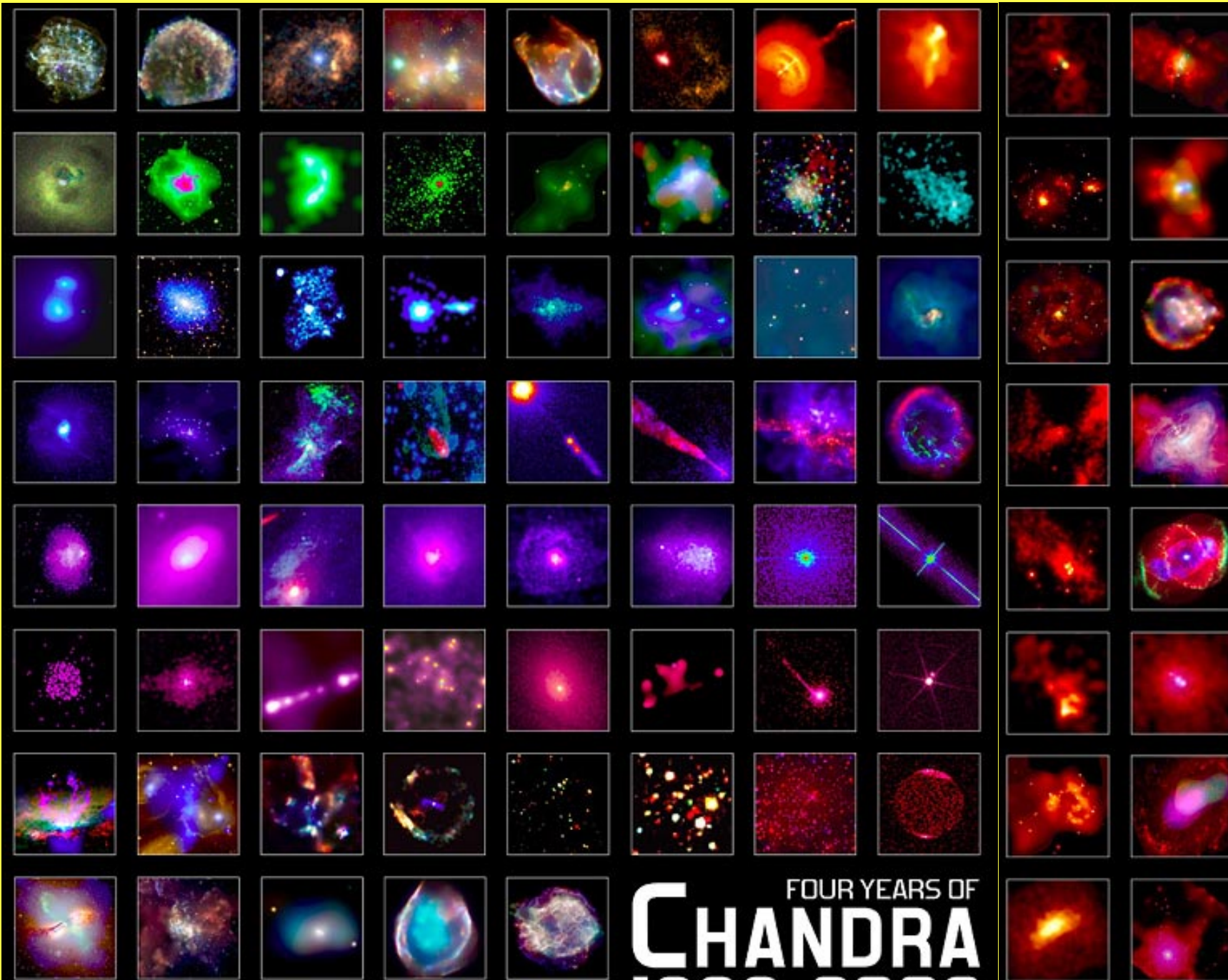


Figure 1: Our 5 GHz VLBA image of DKS 0627-759 (top) and an

# Official First Light: Cas A SNR



# “THE REST IS HISTORY”



FOUR YEARS OF  
**CHANDRA**  
1999-2003