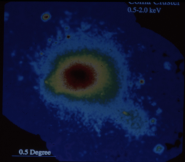


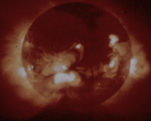
0.5-2.0 keV



0.5 Degree

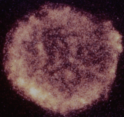
IRAS 16091-4641  
16091  
Full FOV  
0.4-1.6 keV

IRAS 16091-4641  
0.4-1.6 keV





1000 1000 1000



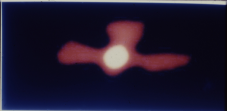
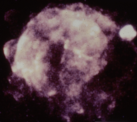


Figure 1: A photograph of a four-lobed, reddish-brown nebula with a bright yellow-white central core, set against a dark blue background. The lobes are roughly triangular and extend outwards from the center. The central core is a dense, bright yellow-white sphere. The overall appearance is that of a star-forming region or a young stellar system.

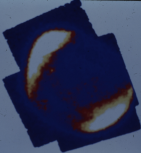


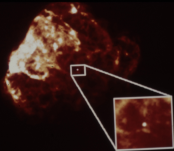
Wells & Peppin 2007a



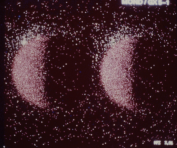
1 August 2007

Wells 2007





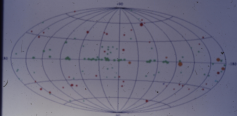
MECHANICAL PROPERTIES  
MECHANICAL PROPERTIES-2



1000 5.0kV

# Phase 1 EGRET Sources

$E > 100$  MeV



■ Radio-loud quasars

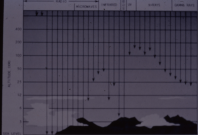
■ Unidentified EGRET sources

■ Pulsars

■ LMC

■ Radio galaxies





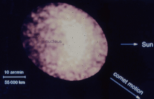
The absorption of radiation by the atmosphere. (From D. Goldsmith, *The Evolving Universe* (Menlo Park, Calif.: Benjamin Cummings, 1981))

# FIRST X-RAY IMAGE OF A COMET

Comet Hyakutake - C/1996 B2

ROSAT HRI

March 27, 1996



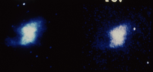
C. Lisse, M. Mumma, NASA GSFC

K. Dennerl, J. Schmitt, J. Englhauser, MPE

GRAND NEBULA

NUV

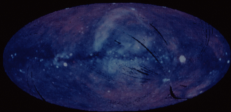
FUV

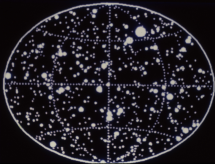


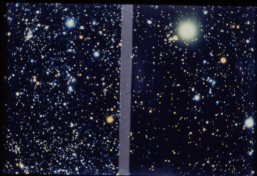
VIS

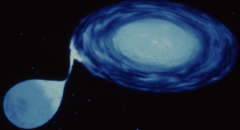
X-RAY

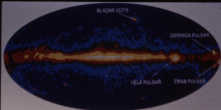








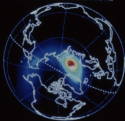




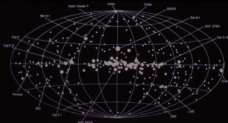
GAMMA-RAY SKY MAP produced by FERMI shows that the constant gamma-ray glow appears brightest along the plane of the Milky Way. The diffuse emission primarily originates from energetic interactions between cosmic rays and the atoms and particles strewn between the stars. Several nearby pulsars and brilliant, distant quasars are also visible. White indicates the most intense emission, dark blue the least.

## Global Image of the Aurora in X-rays

POLAR Ionospheric X-ray Imaging Experiment (POISE)



Observed on March 25, 1996 18:00 - 19:40 UT



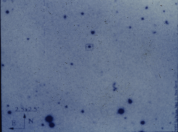
The x-ray sky as revealed by Uhuru. The dots indicate the positions of the x-ray sources in the Fourth Uhuru Catalog of sources. The map is in galactic coordinates, so the central plane of the galaxy is aligned with the equator and the center of the galaxy is in the center. (H. Tananbaum, Harvard-Smithsonian Center for Astrophysics)

CR 8970508

RA=06:53:49.4

Dec=79:16:19.5

Epoch=J2000





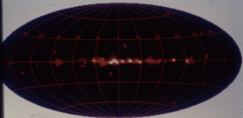
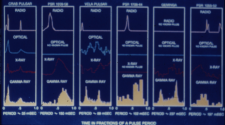


Figure 1: A false-color astronomical image of a galaxy, likely the Andromeda Galaxy (M31), showing its characteristic spiral structure. The image is overlaid with a grid of red lines representing a coordinate system. The color scale ranges from blue (low intensity) to yellow/white (high intensity). The central region is the brightest, indicating the core of the galaxy. The spiral arms are visible as curved structures extending from the center. The image is presented in a false-color format, where the colors represent different intensity levels of light, with blue being the lowest and yellow/white being the highest.



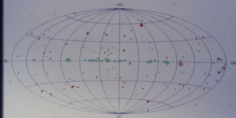
# GAMMA-RAY PULSARS



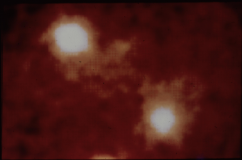


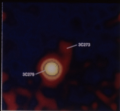
# Phase I EGRET Sources

$E > 100$  MeV

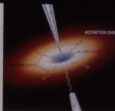


- Radio loud quasar
- Unidentified EGRET source
- Pulsar
- LMC
- Radio galaxy





NGC 274 is 100 million light years away from Earth, despite being some five billion light years distant. The more massive galaxy NGC 279 appears at the upper right. Quasars are thought to derive their tremendous energy from gas fall-



ing into a black hole having millions to billions of times the mass of the sun (right). Jets of charged particles that are not perpendicular to the disk of gas may give rise to brilliant focused beams of gamma rays.