Expected Launch:
October 2002

INTEGRAL

http://astro.estec.esa.nl/SA-general/Projects/Integral/

International Gamma-Ray Astrophysics Laboratory

Mission

INTEGRAL is an international collaboration headed by the European Space Agency and includes NASA's participation. It is designed to study celestial gamma-ray sources in the energy range from 10 keV to 10 MeV. X-ray and optical instruments will further aid in the identification and characterization of the objects seen in gamma rays by the primary instruments. One of INTEGRAL's primary objectives is the study of the origin and evolution of chemical elements in our Galaxy and the Universe. In carrying out this mission, INTEGRAL will perform studies of a variety of phenomena, such as novae and supernovae and their radioactive debris, black holes, active galaxies, gamma-ray bursts, and the center of our own Galaxy.

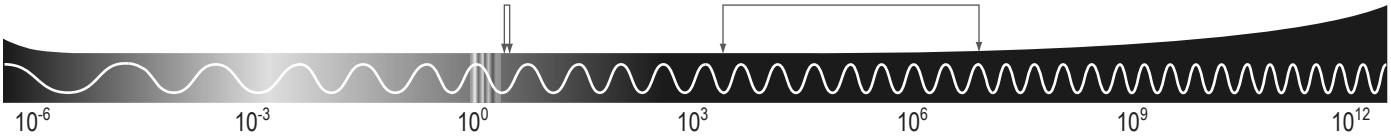
Education and Public Outreach Program

The NASA Education Program for INTEGRAL includes the publication of a poster and information booklet which illustrate and discuss the life cycle of matter in the Universe. The booklet will include classroom activities illustrating key concepts. The program also plans to publish a comic book describing gamma-ray astronomy and INTEGRAL's role in making new discoveries. The INTEGRAL Science Data Centre in Europe hosts public outreach pages describing the mission and science.
EPO site: *http://obswww.unige.ch/isdc/Outreach/*

Seeing and Exploring the Universe

INTEGRAL will study how the different chemical elements in the Universe are made. Elements heavier than helium, which are familiar to us in our everyday lives, are made in energetic events such as violent supernova explosions or built up through collisions between subatomic constituents. INTEGRAL will explore where and when this element building takes place, and in doing so, provide further insight into the underlying physical processes. Using gamma-ray, X-ray, and optical detectors, INTEGRAL will examine the sites of these events in its study of the creation of elements.

INTEGRAL Energy Ranges



Electromagnetic energy spectrum in units of electron-Volts (logarithmic scale)