

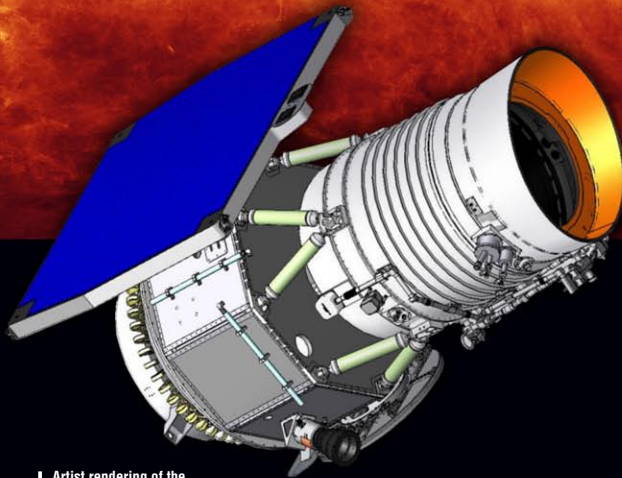


WISE

Wide-field Infrared Survey Explorer

MAPPING THE SKY IN INFRARED LIGHT

This image of the Milky Way galaxy was constructed from data collected by the Infrared Astronomical Satellite (IRAS) and the Cosmic Background Explorer (COBE).



Artist rendering of the WISE spacecraft.

The Wide-field Infrared Survey Explorer (WISE) is a NASA-funded Explorer mission that will capture invisible, infrared light from the Universe to create a catalog of hundreds of millions of astronomical objects. WISE will find the nearest stars to the Sun, brown dwarfs too cool to be detected in visible light. It will also study objects ranging from near-Earth asteroids, to star and planet forming regions in our Milky Way galaxy, to distant quasars, and find the most luminous galaxies in the Universe.

Sensitive all-sky surveys exist in visible and ultraviolet light, but at infrared wavelengths the sky has not been mapped since the 1980s, when NASA's Infrared Astronomical Satellite (IRAS) and the Cosmic Background Explorer (COBE) were launched. WISE will scan the sky to fill in that gap with a sensitivity 500 times that of IRAS and 500,000 times that of COBE.

WISE will launch in November, 2009 from Vandenberg Air Force Base in California aboard a Delta II rocket. From its low Earth orbit (523 km above the ground), WISE will observe the entire sky with its 40-cm telescope and four infrared detector arrays. A tank of frozen hydrogen will cool the components of WISE, so infrared heat radiation from the satellite does not obscure infrared radiation from objects in space.

Upon conclusion of its 7-13 month lifespan, WISE will have taken over 1,500,000 images of objects in the night sky leaving an astronomical legacy that endures for decades. Its catalogue of over 300 million sources of infrared light—asteroids, stars, planets, and galaxies—will be used to identify key targets of NASA's infrared James Webb Space Telescope, planned for launch in 2013.