

NEAR

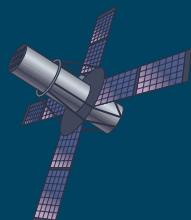
Key *Space Explora*

Name of Mission (Sponsor)

Main Purpose of Mission

Launch Date

ACE, Advanced Composition Explorer (NASA)	Monitor solar atomic particles and the interplanetary environment	1997
TRACE, Transition Region and Coronal Explorer (NASA)	Photograph the sun's coronal plasmas in the ultraviolet range	1998
Coronas F (Russia)	Observe the sun's spectrum during a solar maximum	1999
HESSI, High Energy Solar Spectroscopic Imager (NASA)	Study solar flares through x-rays, gamma rays and neutrons	2000
Photon (Russia)	Analyze gamma rays from the sun	2000
SST, Space Solar Telescope (China and Germany)	Study the sun's magnetic field	2001
Genesis (NASA)	Gather atomic nuclei from the solar wind and return them to Earth	2001
Solar B (Japan)	Study the sun's magnetic field around violent events	2004
Solar Probe (NASA)	Measure particles, fields, x-rays and light in the sun's corona	2007



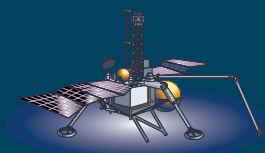
HESSI

the sun

the moon

Lunar A (Japan)	Analyze the moon's subsurface soil	1999
Euromoon 2000 (ESA)	Explore the moon's south pole (two-part mission)	2000 and 2001
Selene (Japan)	Map the moon, studying fields and particles	2003

Mars Global Surveyor (NASA)	Map Mars and relay data from other missions	1996
Planet-B (Japan)	Study interactions between the solar wind and Mars's atmosphere	1998
Mars Surveyor 1998 (NASA)	Explore a site near Mars's south pole (two-part mission)	1998 and 1999
Deep Space 2 (NASA)	Analyze Martian subsurface soil	1999
Mars Surveyor 2001 (NASA)	Land a rover on Mars (two-part mission)	2001
VESPER, Venus Sounder for Planetary Exploration (NASA)	Observe Venus's atmosphere (under study)	2002
Mars Surveyor 2003 (NASA)	Collect Martian soil samples (two-part mission, under study)	2003
Mars Express (ESA)	Analyze Martian soil, using an orbiter and two landers	2003
Europa Orbiter (NASA)	Determine if Jupiter's fourth-largest moon has an ocean	2003
MESSENGER, Mercury Surface, Space Environment, Geochemistry and Ranging (NASA)	Map Mercury and its magnetic field (under study)	2004
Pluto-Kuiper Express (NASA)	Explore the solar system's only unvisited planet and the Kuiper belt (under study)	2004
Mars Surveyor 2005 (NASA)	Return Martian rock and soil samples to Earth (under study)	2005



Mars Surveyor
1998

the planets

CONTOUR, Comet Nucleus Tour (NASA)	Produce spectral maps of three comet nuclei	2002
Deep Space 4 (NASA)	Land a probe on Comet Tempel 1's nucleus	2003
Rosetta (ESA and France)	Land a probe on Comet Wirtanen's nucleus	2003



Rosetta

comets

tions of the Next Decade

Name of Mission (Sponsor)

Main Purpose of Mission

Launch Date

asteroid belt

Deep Space 1 (NASA) Test spacecraft technologies en route to asteroid 1992 KD 1998
 MUSES-C (Japan) Return a sample of material from an asteroid 2002

RXTE, Rossi X-ray Timing Explorer (NASA) Watch x-ray sources change over time 1995

Beppo-SAX (Italy and the Netherlands) Observe x-ray sources over a wide energy range 1996

HALCA (Japan) Study galactic nuclei and quasars via radio interferometry 1997

SWAS, Submillimeter Wave Astronomy Satellite (NASA) Search for oxygen, water and carbon in interstellar clouds 1998

Odin (Sweden) Detect millimeter-wavelength emissions from oxygen and water in interstellar gas 1999

FUSE, Far Ultraviolet Spectroscopic Explorer (NASA) Detect deuterium in interstellar space 1999

WIRE, Wide-Field Infrared Explorer (NASA) Observe galaxy formation with a cryogenic telescope 1999

ABRIXAS, A Broad-Band Imaging X-ray All-Sky Survey (Germany) Make a hard x-ray, all-sky survey 1999

SXG, Spectrum X-Gamma (Russia) Measure x-ray emissions from pulsars, black holes, supernova remnants and active galactic nuclei 1999

HETE II, High Energy Transient Experiment (NASA) Study gamma-ray bursters 1999

XMM, X-ray Multi-Mirror (ESA) Observe spectra of cosmic x-ray sources 2000

Astro-E (Japan) Make high-resolution x-ray observations 2000

MAP, Microwave Anisotropy Probe (NASA) Study the universe's origin and evolution through the cosmic microwave background 2000

Radioastron (Russia) Observe high-energy phenomena via radio interferometry 2000

SIRTF, Space Infrared Telescope Facility (NASA) Make infrared observations of stars and galaxies 2001

INTEGRAL, International Gamma-Ray Astrophysics Lab (ESA) Obtain spectra of neutron stars, black holes, gamma-ray bursters and active galactic nuclei 2001

GALEX, Galaxy Evolution Explorer (NASA) Observe stars, galaxies and heavy elements at ultraviolet wavelengths (under study) 2001

Spectrum UV (Russia) Study astrophysical objects at ultraviolet wavelengths 2001

Deep Space 3 (NASA) Test techniques for flying spacecraft in formation 2002

Corot (France) Search for evidence of planets around distant stars 2002

SIM, Space Interferometry Mission (NASA) Image stars that may host Earth-like planets (under study) 2005

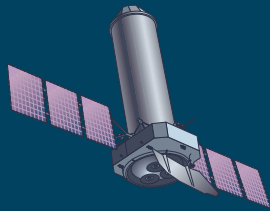
Constellation X-ray Mission (NASA) Perform high-resolution x-ray spectroscopy (under study) After 2005

OWL, Orbiting Wide-Angle Light Collectors (NASA) Study cosmic-ray effects on Earth's atmosphere (under study) After 2005

FIRST, Far Infrared Submillimeter Telescope, and Planck (ESA) Discern the fine structure of the cosmic microwave background (combined mission) 2007

NGST, Next Generation Space Telescope (NASA) View space at infrared wavelengths (under study) 2008

TPF, Terrestrial Planet Finder (NASA) Find planets and protoplanets orbiting nearby stars (under study) 2010



XMM

deep space

ILLUSTRATIONS BY JARED SCHNEIDMAN DESIGN