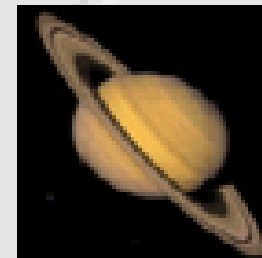
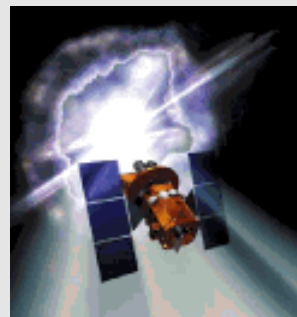
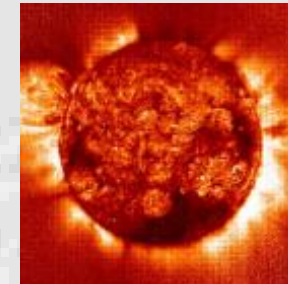
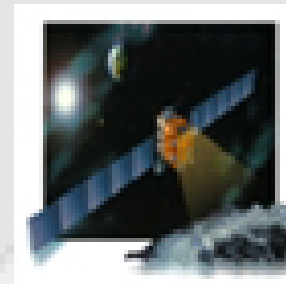
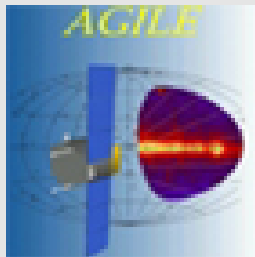
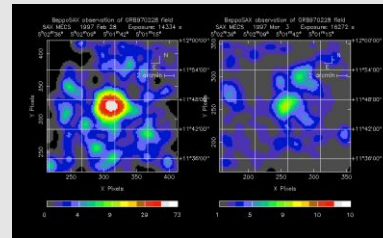
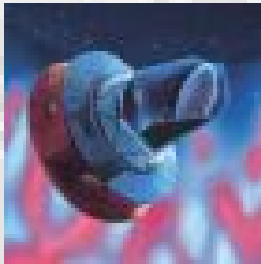


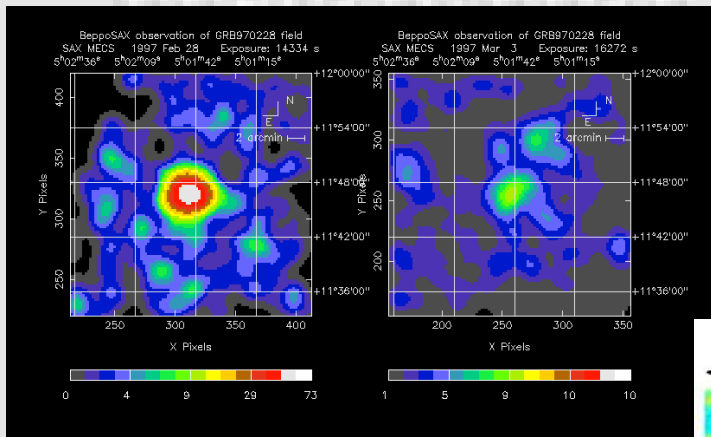
Programs and plans

ASI - Observation of the Universe

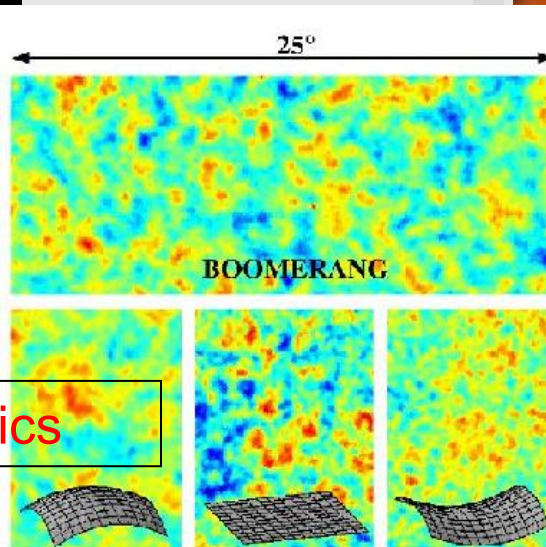


ASI – Observation of the Universe

High-energy astrophysics



Cosmology & Fund, Physics



Solar System Exploration



ASI Science
Data Center

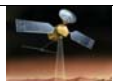







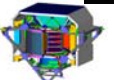

Observation of the Universe: 24% of the overall PASN 2006 –2008
(including the contribution to the ESA Science mandatory program and
to the optional Aurora program)



National and bilateral
programs

- 15% of the Science Program
- 40% of the Aurora Program
- + payloads on a national basis

MISSIONS

	2005	2006	2007	2008
MRO/SARAD 	▼ agosto			
VENUS EXPRESS 	▼ ottobre			
PAMELA 		▼ sec. metà		
AGILE 			▼ gennaio	
DAWN 		▼ sec. metà		
GLAST 			▼ agosto	
PLANCK 			▼ agosto	
HERSCHEL 			▼ agosto	
AMS 				▼
LISA-PF 				▼

Integral

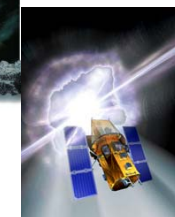
Cassini-Huygens

Mars Express

Rosetta

SMART-1

Swift



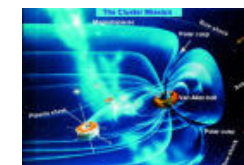
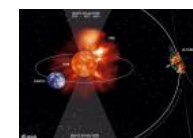
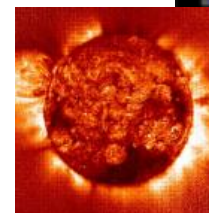
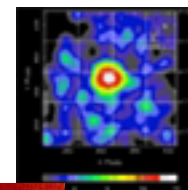
Newton-XMM

Soho

Cluster

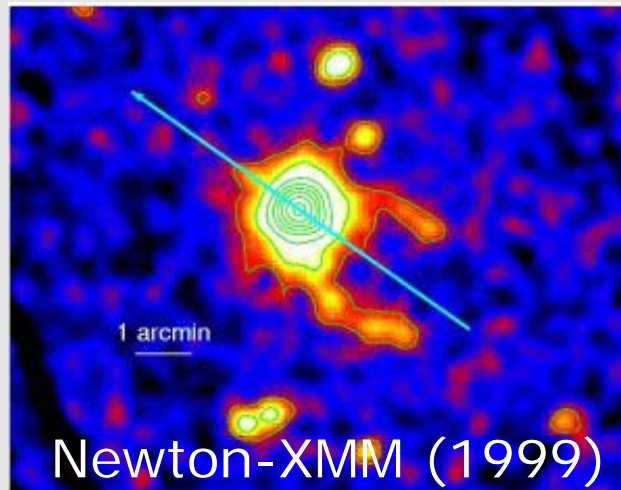
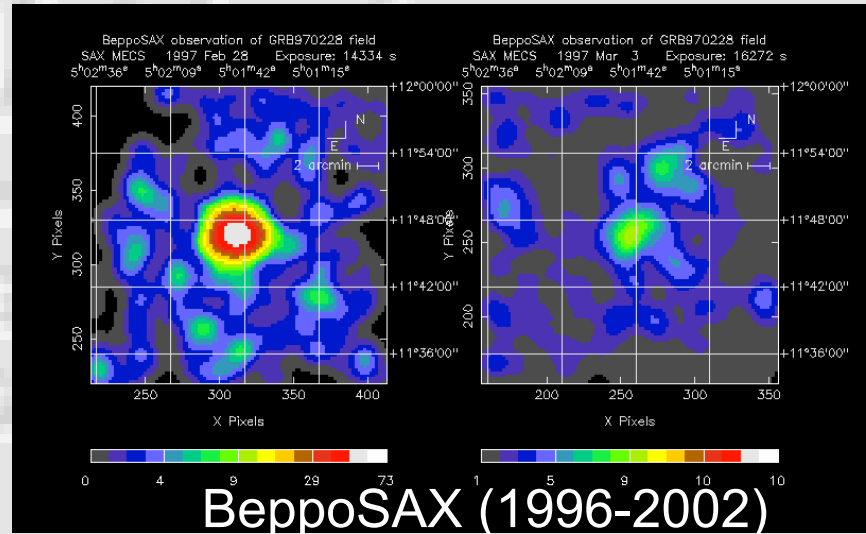
Ulysses

HST



High-energy astrophysics

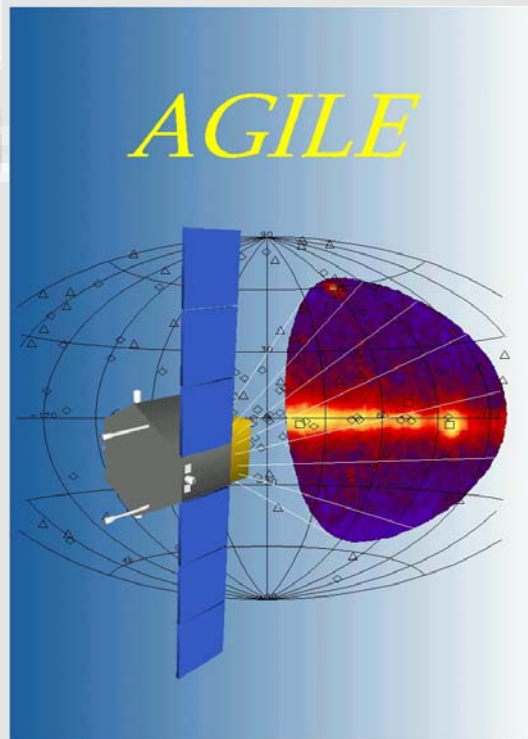
X & γ astronomy missions (I)



High-energy astrophysics X & γ astronomy missions (II)



Launch Nov. 2004



To be launched end
2006 – early 2007



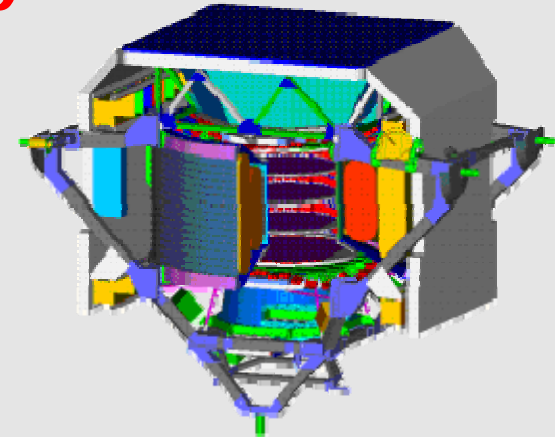
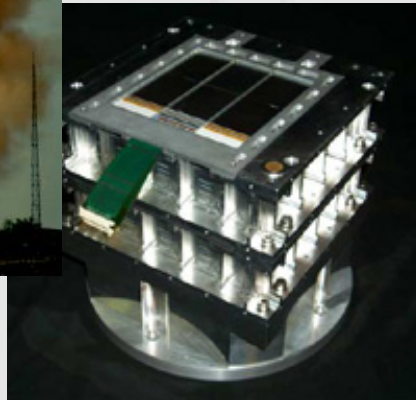
To be launched : August
2007

High-energy astrophysics

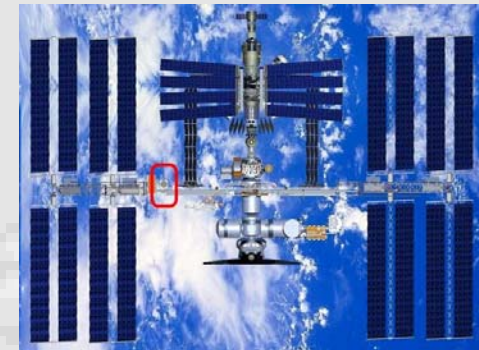
Astroparticles



Pamela
(during 2006)



AMS
(2008)



High-energy astrophysics

The future

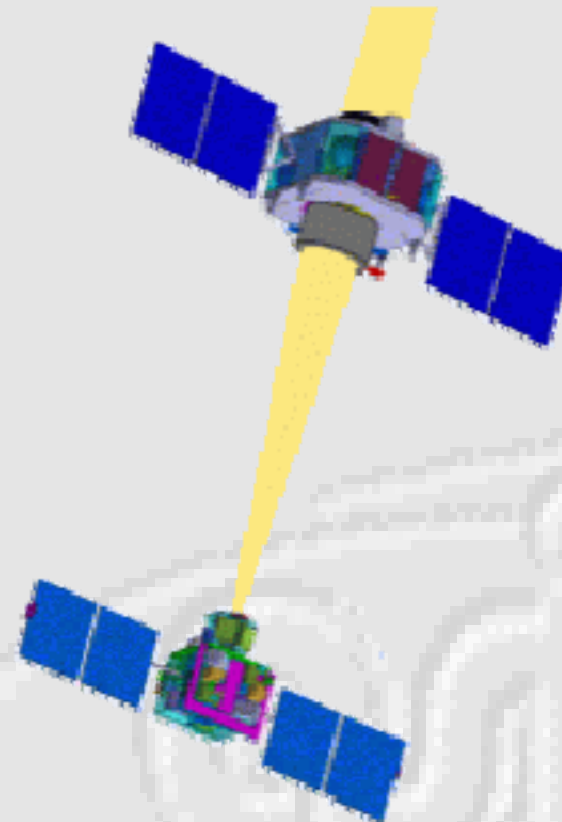
New national hard X-ray mission

Simbol-X is a new hard x-ray mission, based on the formation flight technology, supported both by ASI and CNES.

Launch scheduled for 2013.

In parallel, a national mission is under evaluation at ASI

Mirror Spacecraft

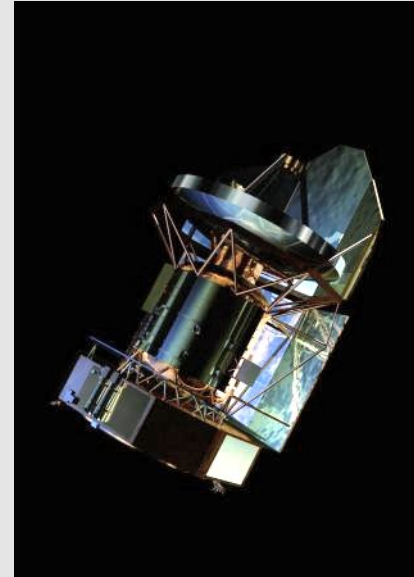


Detector Spacecraft

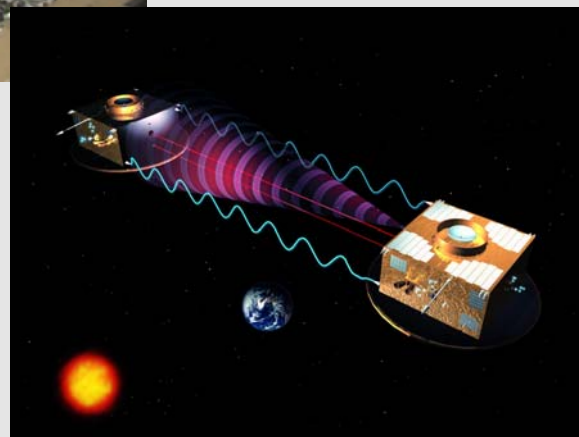
Cosmology & Fundamental Physics



Planck
(2008)



Herschel
(2008)



LISA-PF (2009)

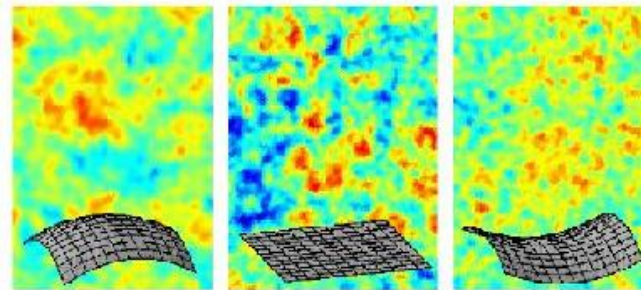
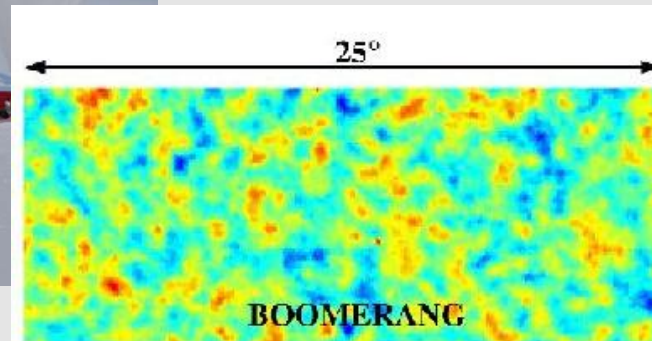
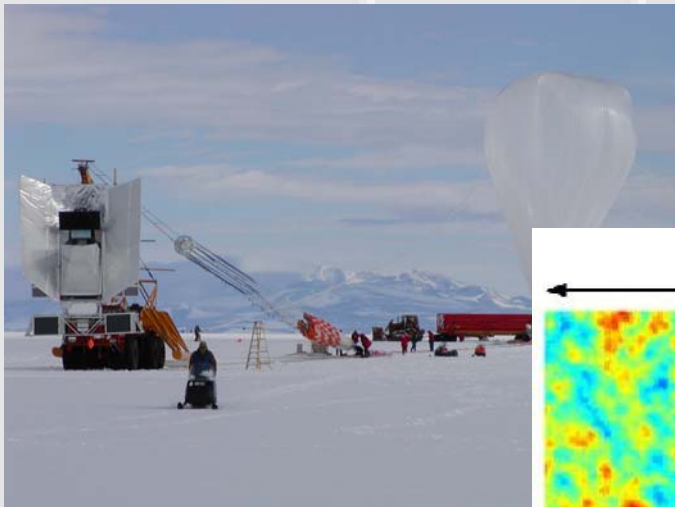
SPOrt
(200X)



Cosmology

Stratospheric Balloons

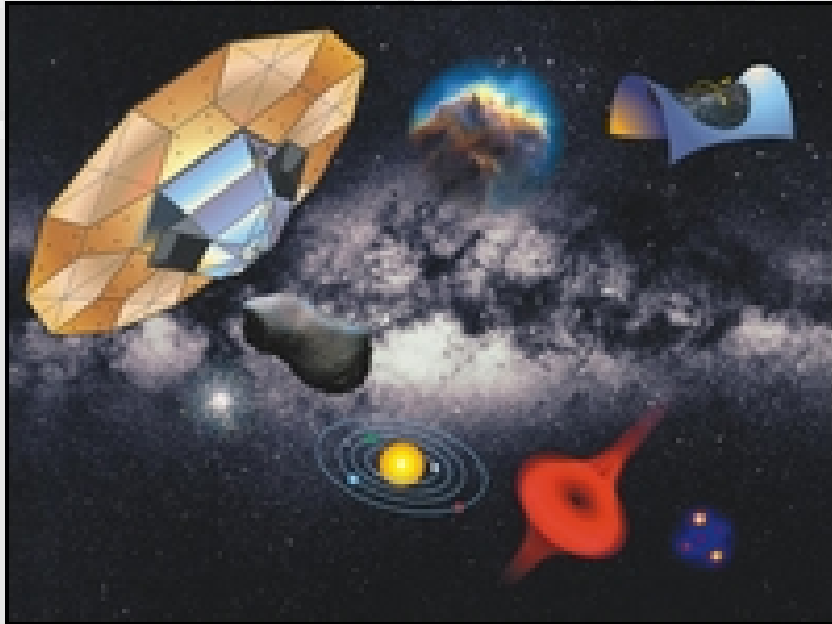
BOOMERanG: two flights already performed
from Antarctica, next flight: spring 2007,
Svalbard



**OLIMPO from
Svalbard twice**

Cosmology

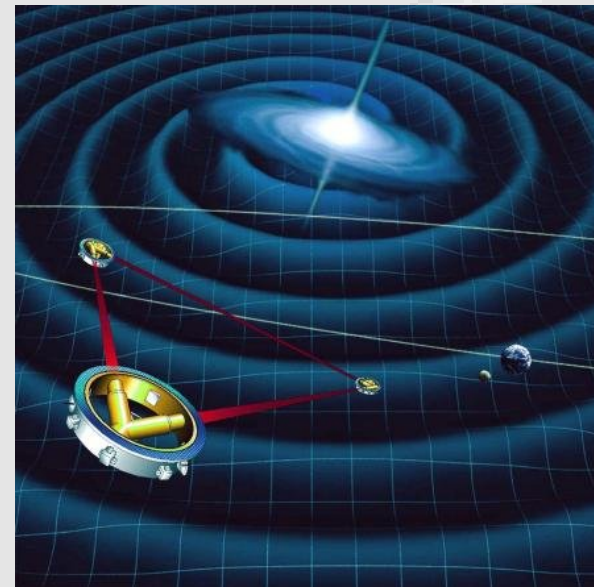
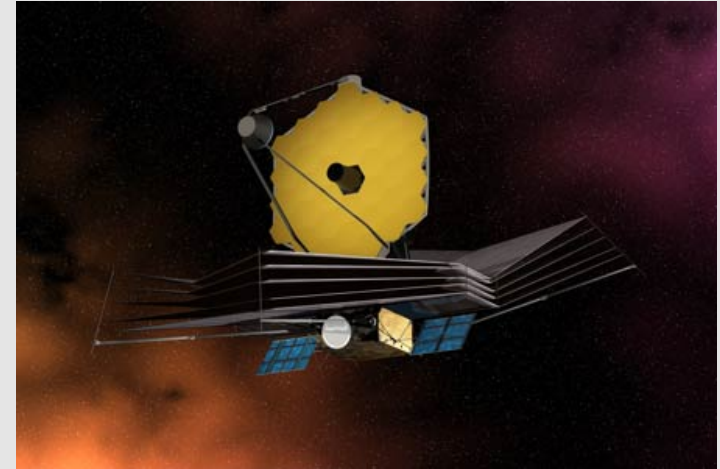
The future



Gaia
(2011)

New nationally led mission

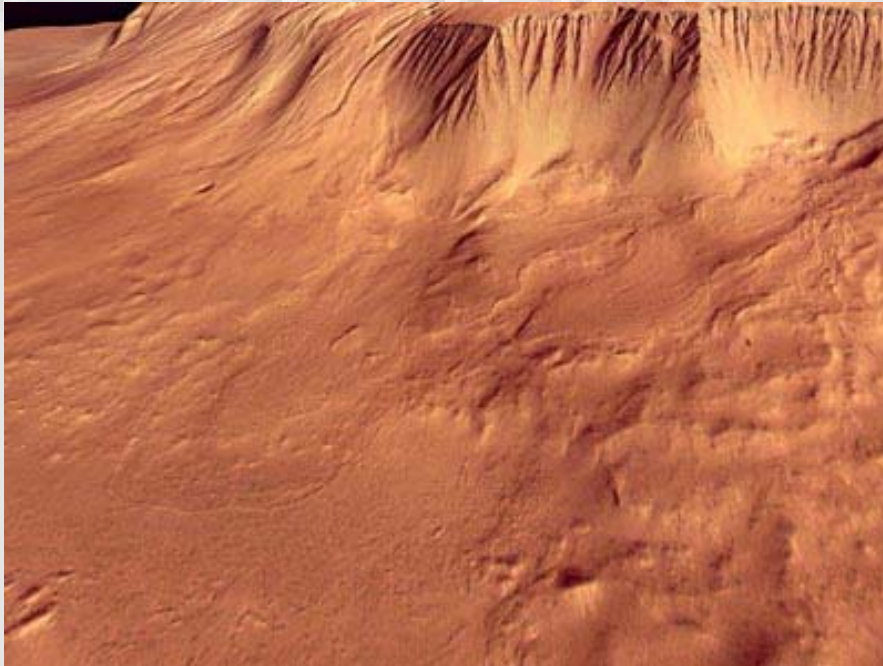
JWST (20XX?)



LISA
(2017?)

Solar System Exploration

Mars



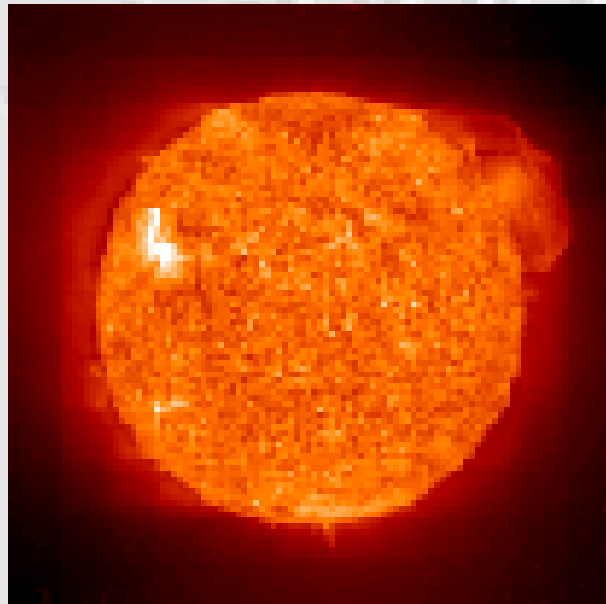
from Mars Express (2003)



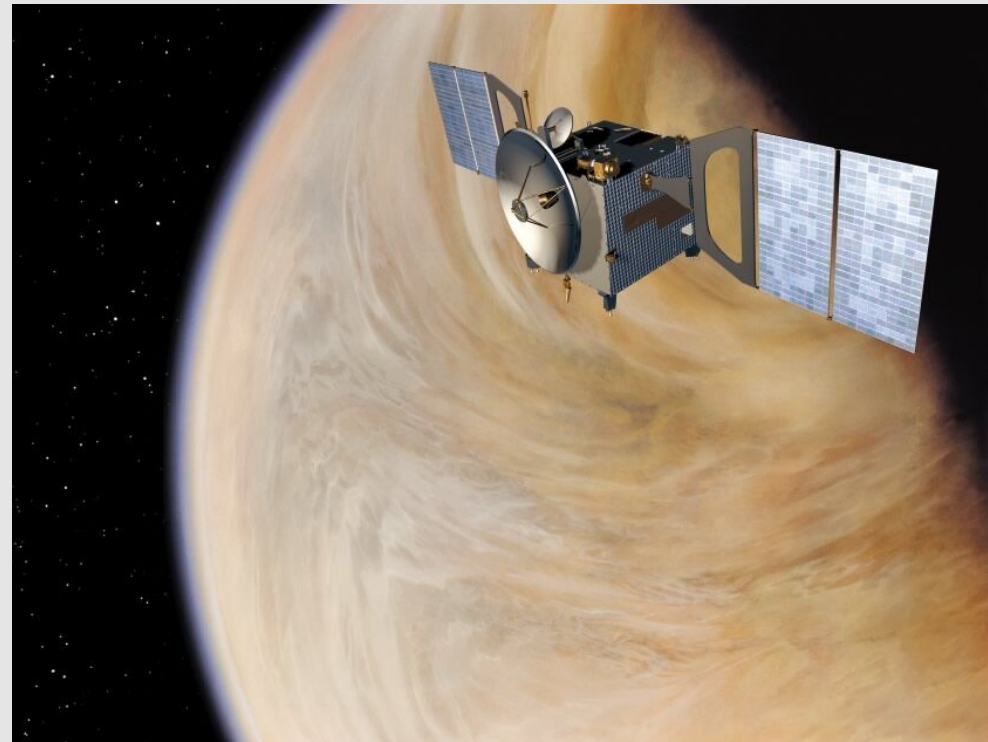
Sharad (MRO)
launched on the 12th of
August, 2005

Solar System Exploration

Internal Planets and the Sun



Soho (1995)



Venus Express
(2005)

Solar System Exploration

External planets



Cassini-Huygens



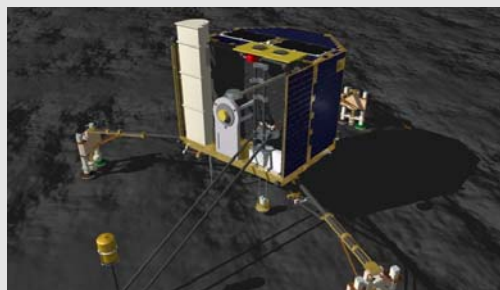
H-ASI on a balloon



Solar System Exploration

Minor bodies

Rosetta (2004)

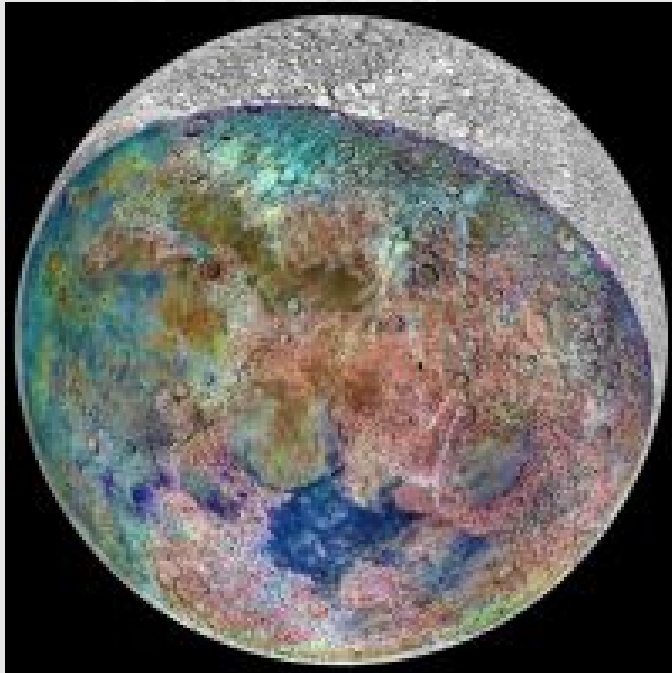


Dawn (2006)

Solar System exploration

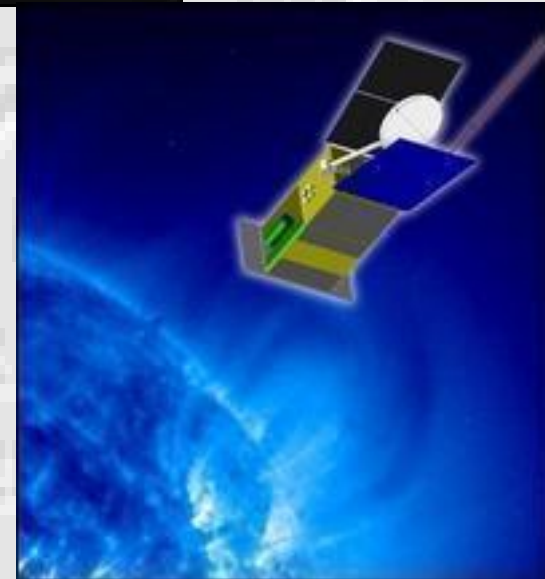
The future

Moon exploration



Bepi Colombo (2013)

Solar Orbiter (2015?)





Solar System exploration

The future



**Juno,
a mission to Jupiter**



2010-2011





ASI Approach

ASI is fully committed in “Exploration”

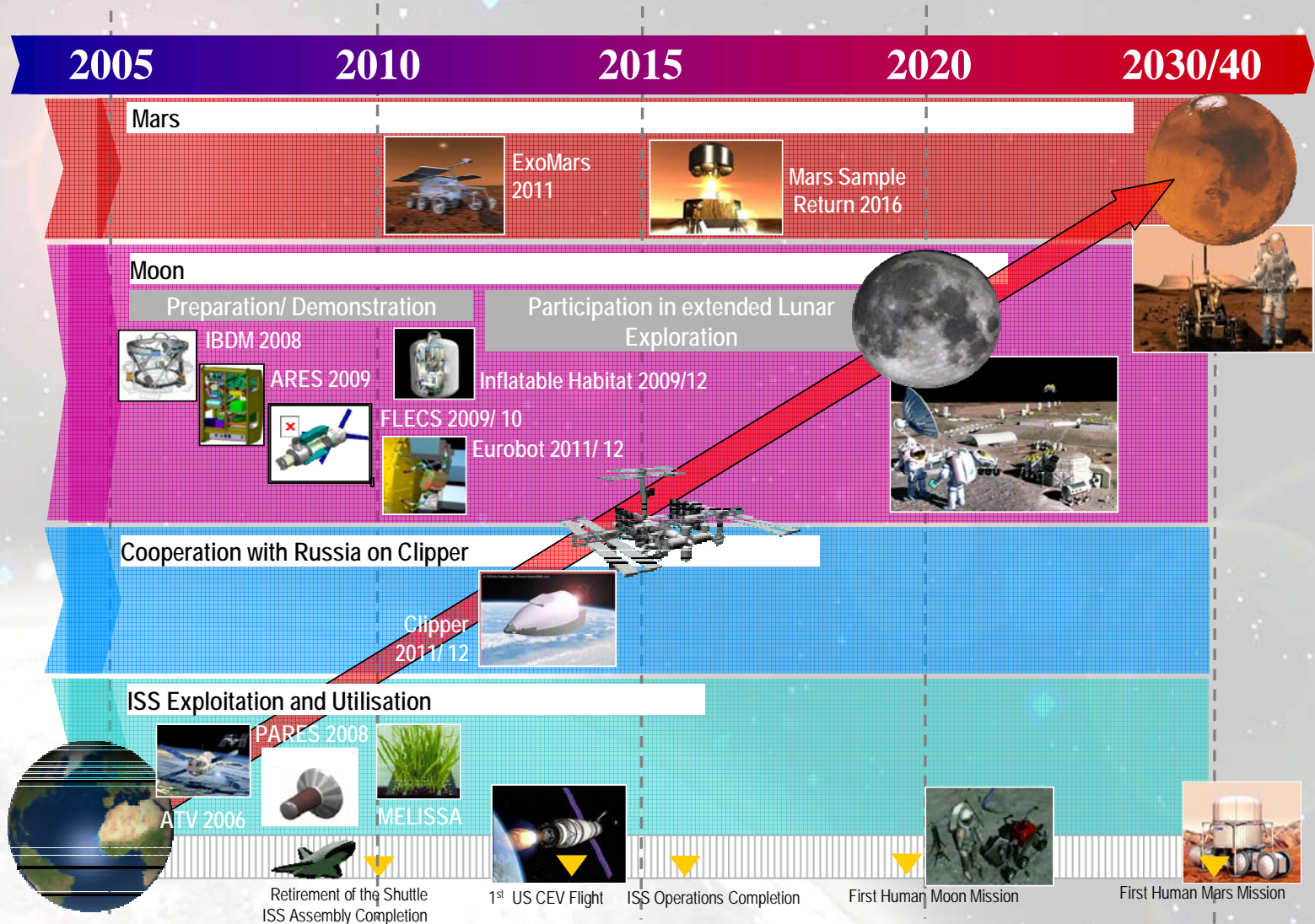
We will go to Mars together with ESA: main contributor and supporter of the European Exploration program “AURORA”, mainly focusing in the short-medium term on robots (i.e.the ExoMars mission).

Key STEP: ESA Council meeting at Ministerial level – Berlin, 5-6 December, 2005

Solar System Exploration Aurora & NASA Exploration Program



European Exploration Approach





ASI Approach

We will go to the Moon through an autonomous national program.

The third element will be the promotion and the use of the International Space Station at the maximum extent possible as a test-bed for exploration.

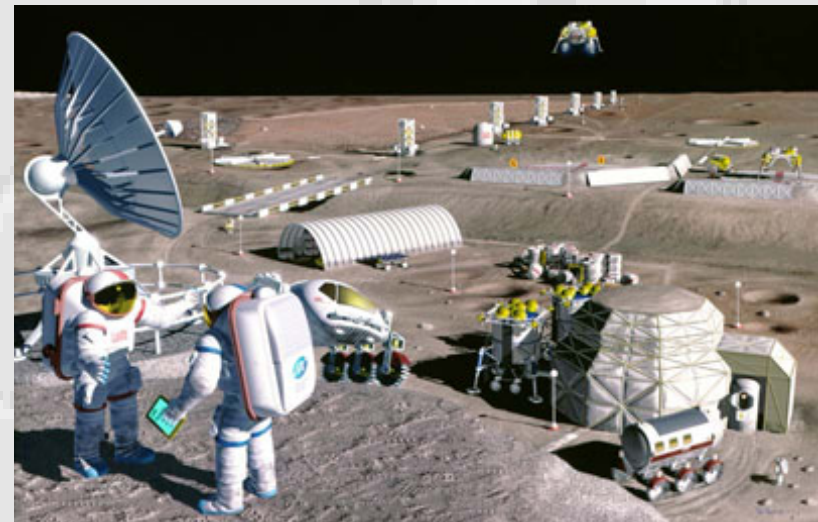
NEXT STEP: Implementation of the National Aerospace Plan 2006-2008

ASI Approach (cont'd)

The scientific questions to be answered will dominate the short-medium term exploration of the Moon

On the long term it is possible to consider the Moon for resources exploitation and as a test bed. It will be considered also as a permanent base,

to stay and to exploit the Earth natural satellite, and preparing and assisting the exploration of Mars and beyond



ASI Approach (cont'd)

- ASI National Programme is science oriented following 3 strategic guidelines:
 - “Science of the Moon” and evaluation of the resources for human permanence (oxygen, ice, radiation, ...)
 - “Science from the Moon”, using the Moon as a platform for Universe observation
 - Moon as a platform for observation of our planet Earth.

ASI Approach (cont'd)

- ASI issued 13 studies on various topics in order to develop the ASI “Vision for Moon Exploration”;
- Contracts are close to be awarded;
- On this basis, ASI missions to the Moon shall be planned

ASI Approach(cont'd)

- After that, ASI will issue the contracts to perform the A/B phase. Breadboarding of the most critical technologies and tests on Earth at representative sites will be included;
- Such activity of Phase AB is planned to be completed within mid 2008 in order to be ready for launching the orbiter around 2010-2012 and the landed segment around 2012-2015



ASI Science Data Center (ASDC)

ASDC has been created in 2000, located at ESRIN.

The center is dedicated to the delivery of products and services for the benefit of the scientific community in the Observation of the Universe field.



The screenshot shows the ASDC website interface. The browser address bar displays <http://www.asdc.asi.it/indexnew.html>. The website features a blue header with the ASDC logo and a search bar. A navigation menu on the left includes links for Home, ASDC Info, Missions, Interactive Data Archives, ASDC Source Catalogs, Tools, and External Useful Links. Below the menu is a "Quick data retrieval" form with a "Submit" button. The main content area displays a news article titled "The Swift Gamma-Ray Burst Mission" with a sub-headline "Swift successfully launched November 20, 2004 at 17:16 GMT". The article includes a list of contributions from Italy: "The XRT X-ray mirror", "The Malindi ground station", and "XRT data reduction and analysis software". A "Latest ASDC News" section on the left shows a news item from November 28, 2004, stating "Swift data soon available from the ASDC". The bottom of the page features a "Latest Swift News" section with links for "UVOT switched on", "BAT switched on", and "XRT switched on".



3 5 2004

Conclusions

The Italian program is balanced and harmonized, between the participation to the ESA programs and the national and bilateral cooperative programs.

The future of space science is based on international collaboration and ASI is more than open to discuss partnerships.