

ROSETTA

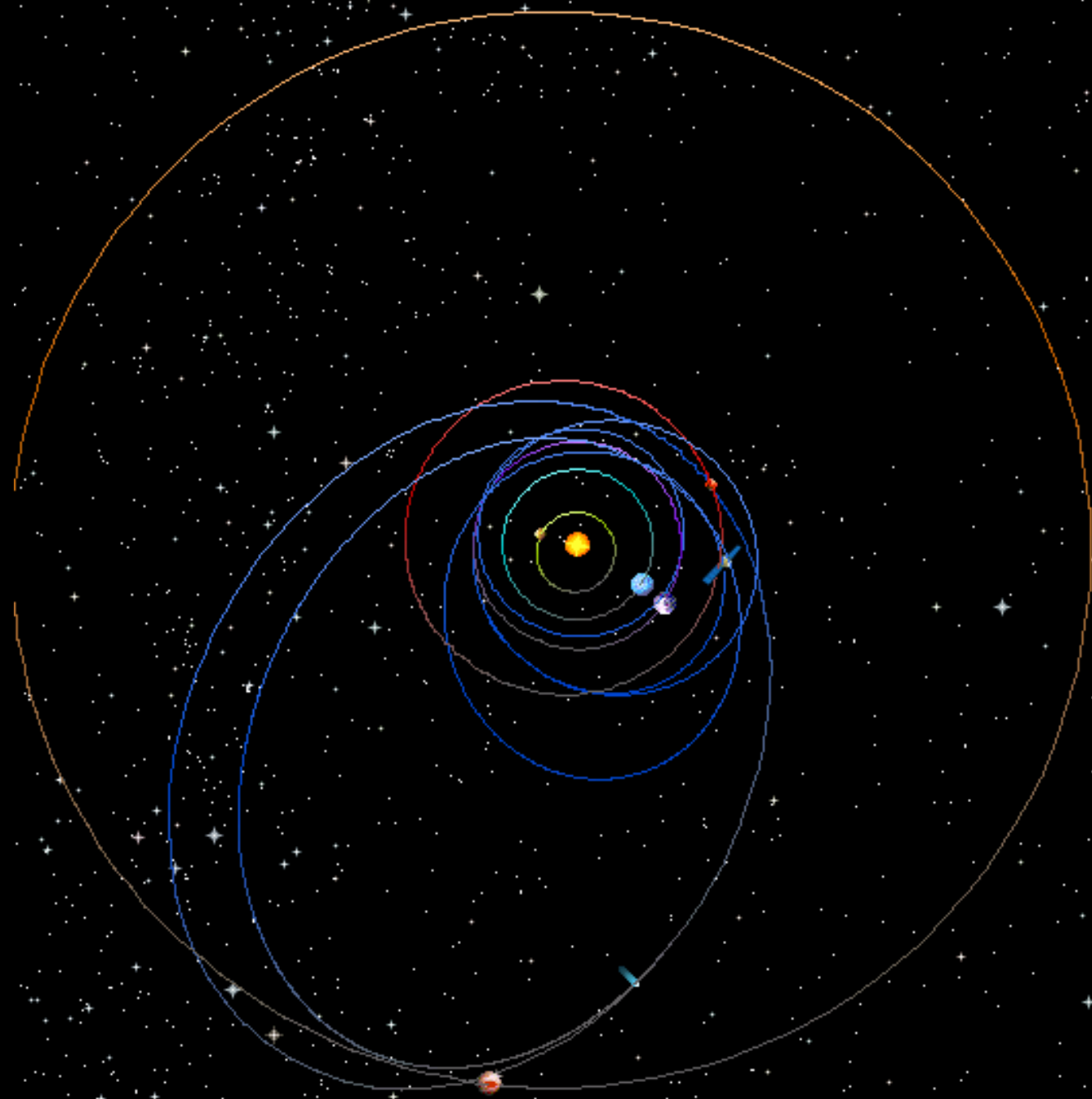




Rosetta Schedule

Launch	March 2, 2004
2867 Steins Flyby (E-type)	September 5, 2008
21 Lutetia Flyby (C-type)	July 10, 2010
Rendezvous maneuver	May, 2014
Begin orbital operations	August, 2014
Lander deployment	November, 2014
Perihelion	August, 2015

20 Aug 2007 05:48:25 UT



Rosetta Mission Objectives

- Global characterisation of the nucleus, determination of dynamic properties, surface morphology and composition
- Determination of the chemical, mineralogical and isotopic compositions of volatiles and refractories in a cometary nucleus
- Determination of the physical properties and interrelation of volatiles and refractories in a cometary nucleus
- Study of the development of cometary activity and the processes in the surface layer of the nucleus and the inner coma (dust/gas interaction)
- Global characterisation of asteroids, including determination of dynamic properties, surface morphology and composition

Rosetta Instruments

Remote sensing

OSIRIS – Narrow and wide angle cameras (Keller)

ALICE – UV imaging spectrometer (Stern)

VIRTIS – Visible and IR imaging spectrometer (Coradini)

MIRO – Microwave spectrometer and sounder (Gulkis)

Compositional analysis

ROSINA – Dual mass spectrometers (Balsiger)

COSIMA – Dust secondary ion mass spectrometer (Hilchenbach)

MIDAS – Atomic microscope (Riedler)

Nucleus large-scale structure: CONSERT – Radar tomography (Kofman)

Dust flux/mass distribution: GIADA – Dust mass, velocity, flux (Colangeli)

Comet plasma environment/solar wind interaction: RPC (several PIs)

Radio science: RSI – Nucleus mass and gravity harmonics (Pätzold)

COSIMA?



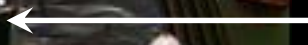
ROSINA



MIRO



GIADA



STAR TRACKERS



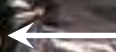
RPC



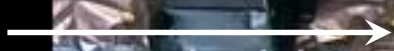
WAC



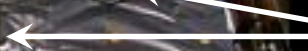
NAC



ALICE?



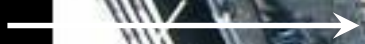
VIRTIS



MAG BOOM



LANDER



Lander Instruments

APXS - Alpha-p-X-ray spectrometer (Klingelhöfer)

CIVA - Panoramic and microscopic imaging system (Bibring)

CONSERT - Radio sounding, nucleus tomography (Kofman)

COSAC - Evolved gas analyser/elemental and molecular composition (Goesmann)

MODULUS Ptolemy - Evolved gas analyser - isotopic composition (Wright)

MUPUS - Measurements of surface and subsurface properties (Spohn)

ROLIS - Imaging (Mottola)

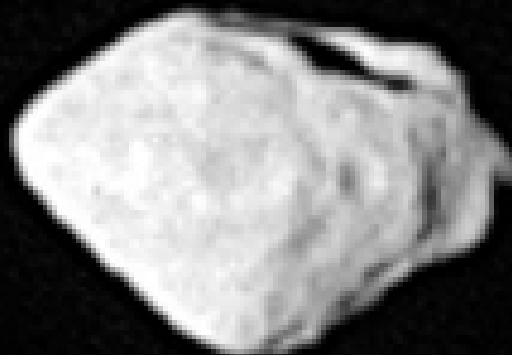
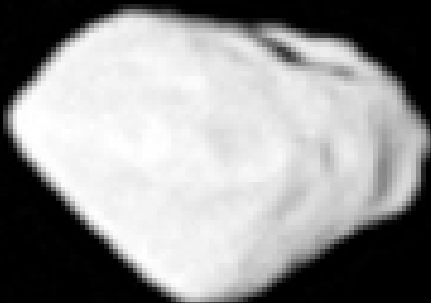
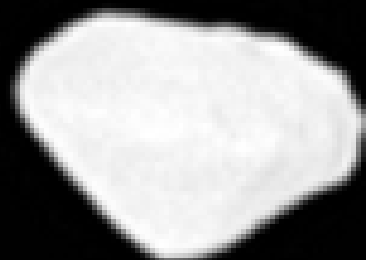
ROMAP - Magnetometer and plasma monitor (Auster/Apathy)

Sampling, Drilling and Distribution Subsystem - Drilling and sample retrieval (Ercoli-Finzi)

SESAME - Surface electrical, acoustic and dust impact monitoring (Seidensticker/Apathy)



Rosetta Steins flyby, 05 Sep 2008





STATUS

- Orbiter performing well
- Successful flyby of 2867 Steins on September 5, 2008
- Preparations underway for 21 Lutetia flyby
- Preparations underway for 40-month hibernation