

# Rosetta asteroid targets

M.A. Barucci (1)

(1) LESIA, Observatoire de Paris, 92195 Meudon Principal Cedex, France

(antonella.barucci@obspm.fr, /phone :+33-145077775)

The Rosetta mission was selected by European Space Agency (ESA) in 1993 as cornerstone mission including a rendezvous with in situ investigation of a comet and two asteroid fly-bys. The aim of the mission is to investigate the origin of our Solar System through the composition of planetesimals and their origin over the last 4.6 billion years.

The mission has been launched with success on March 2<sup>nd</sup> 2004. The mission includes a long orbital rendezvous with the 67P/Churyumov-Gerasimenko comet nucleus (2014) and the fly-bys of the asteroids 2867 Steins (2008) and 21 Lutetia (2010).

The two asteroids have been selected for their scientific interest among the possible candidates inside the available Delta V.

The present knowledge of the two asteroid targets' physical properties will be presented as well the expected science return from the asteroid fly-bys .

Lutetia's spectral properties seem consistent with a composition similar to carbonaceous chondrite meteorites even if, most of the albedo determinations suggest a metallic nature. The polarimetric and spectral properties of Steins imply a more extensive thermal history. Steins may have a composition similar to relatively rare enstatite chondrite/achondrite meteorites.