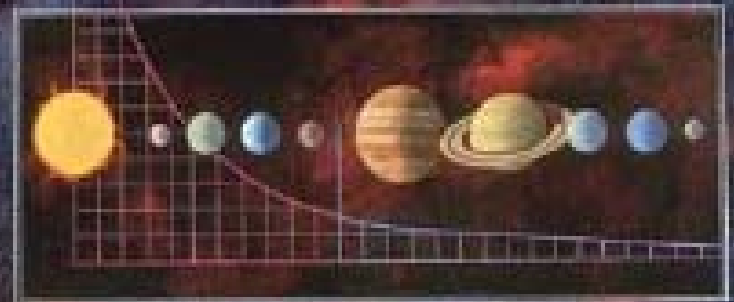
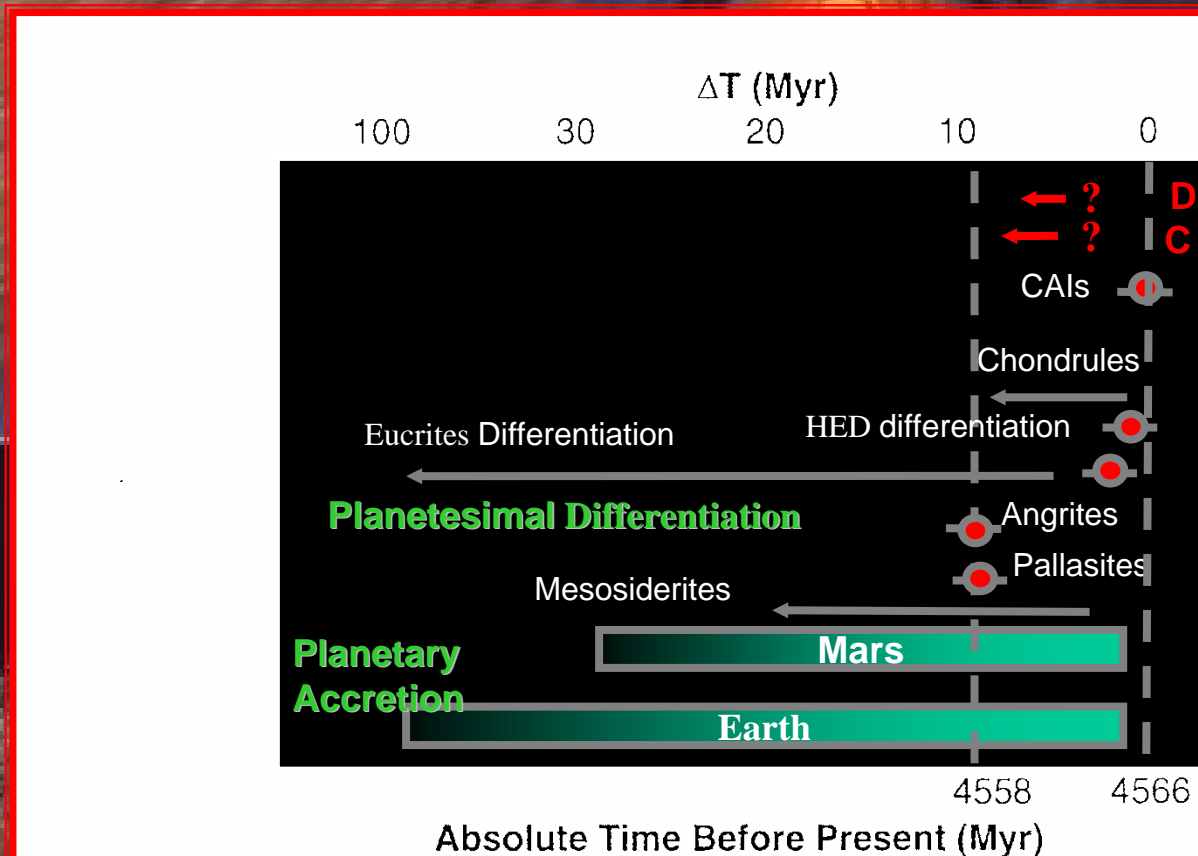


International Symposium MARCO POLO and other Small Body Sample Return Mission



M.A. Barucci

In the early solar nebula, the dust accreted to form planetesimals and the planetesimals accreted to form planetary embryos. In the asteroid belt this process was stopped when Jupiter formed.



Scientific objectives of MARCO POLO

What were the initial conditions and evolution history of the solar nebula ?

Do primitive class objects contain presolar material yet unknown in meteoritic samples?

Which were the properties of the building blocks of terrestrial planets?

Composition of primitive material

What was the role of NEO impacts in the origin of life?

How did composition vary with geological context?

How did space weathering and collisions affect NEO composition?

Interior

Elemental/Isotopical composition

Nature of organics

Mineralogy

Surface morphology

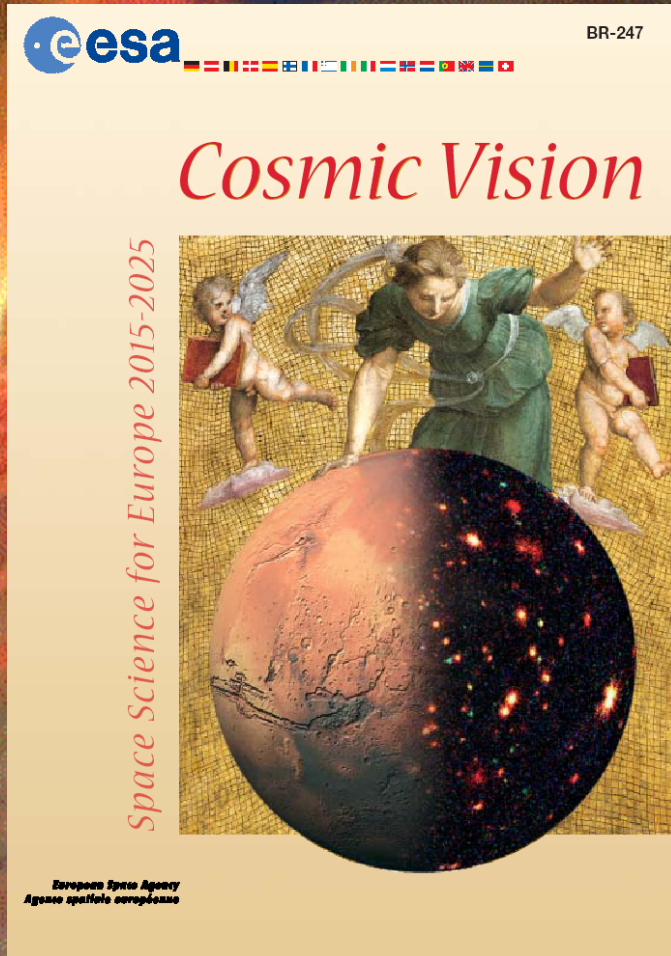
Mass, gravity density

Internal structure

Sample collection & return

Orbiter

A NEO-SR mission is in the priority of CV



1. What are the conditions for Planet formation and the emergence of Life?
2. How does the Solar System work?