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Petits Corps du Système Solaire

comètes, météorites, astéroïdes

Nuit des étoiles 2014

jean-marc.saglio@laposte.net

Société Astronomique de France

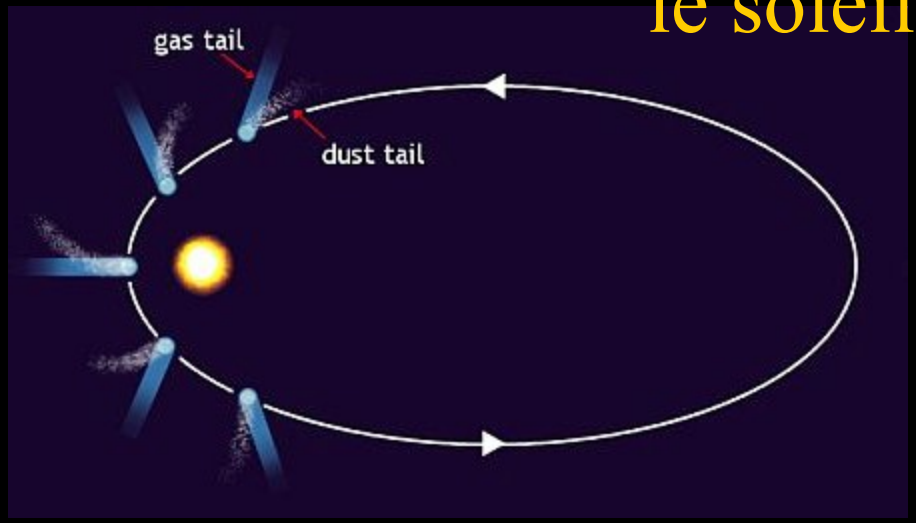
quand le ciel semble
nous tomber sur la tête

Hale-Bopp, la comète de 1997

Mc Naugth, la grande comète de 2007

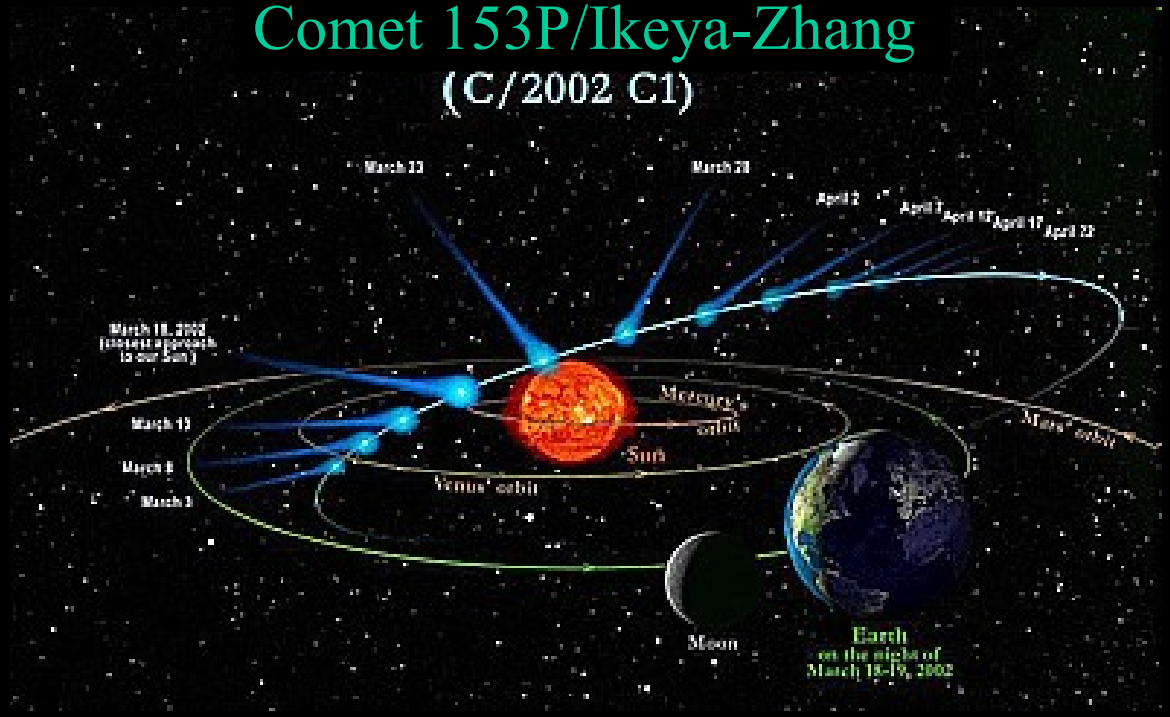
Australie

le soleil attire et.. repousse

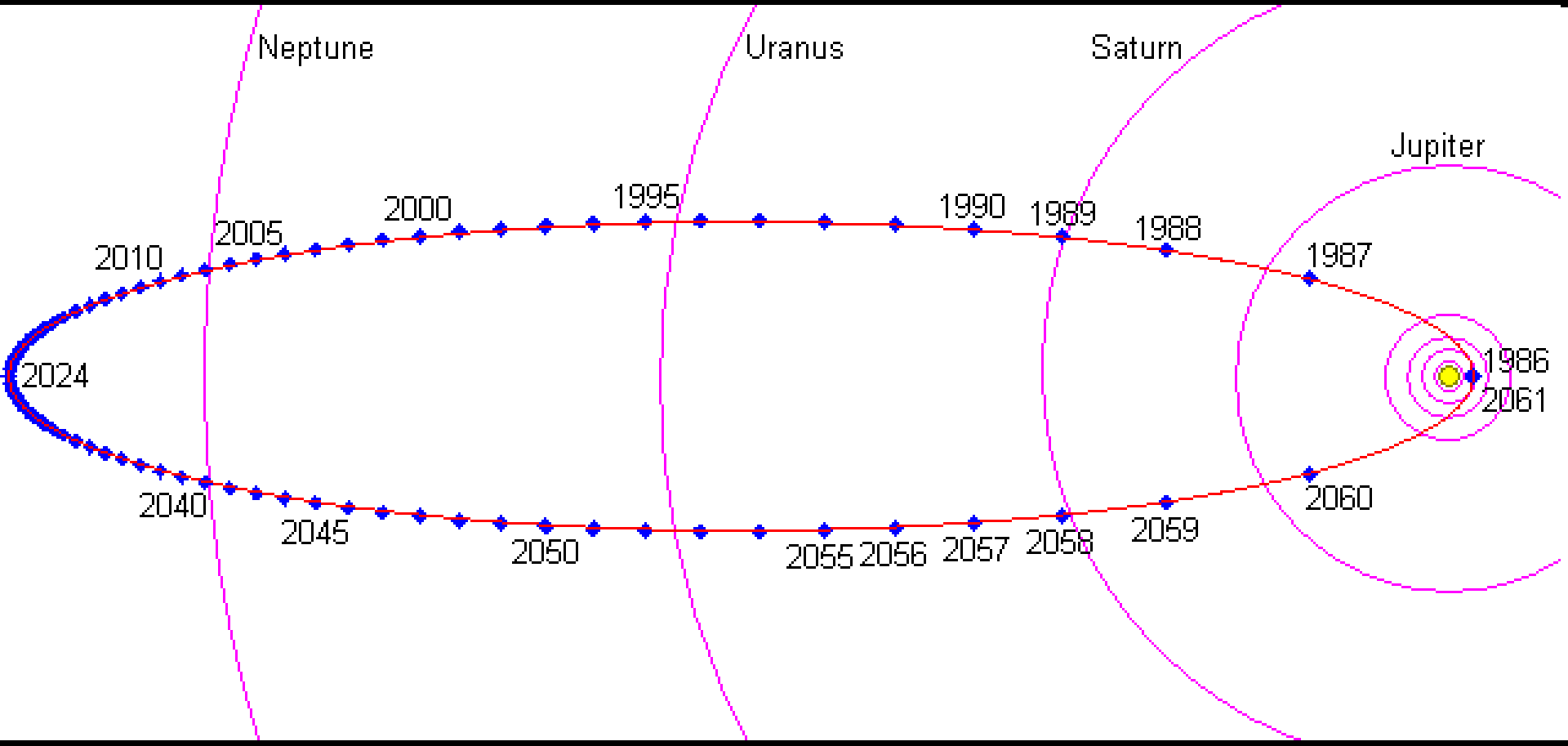


Gravité et.. Vent solaire

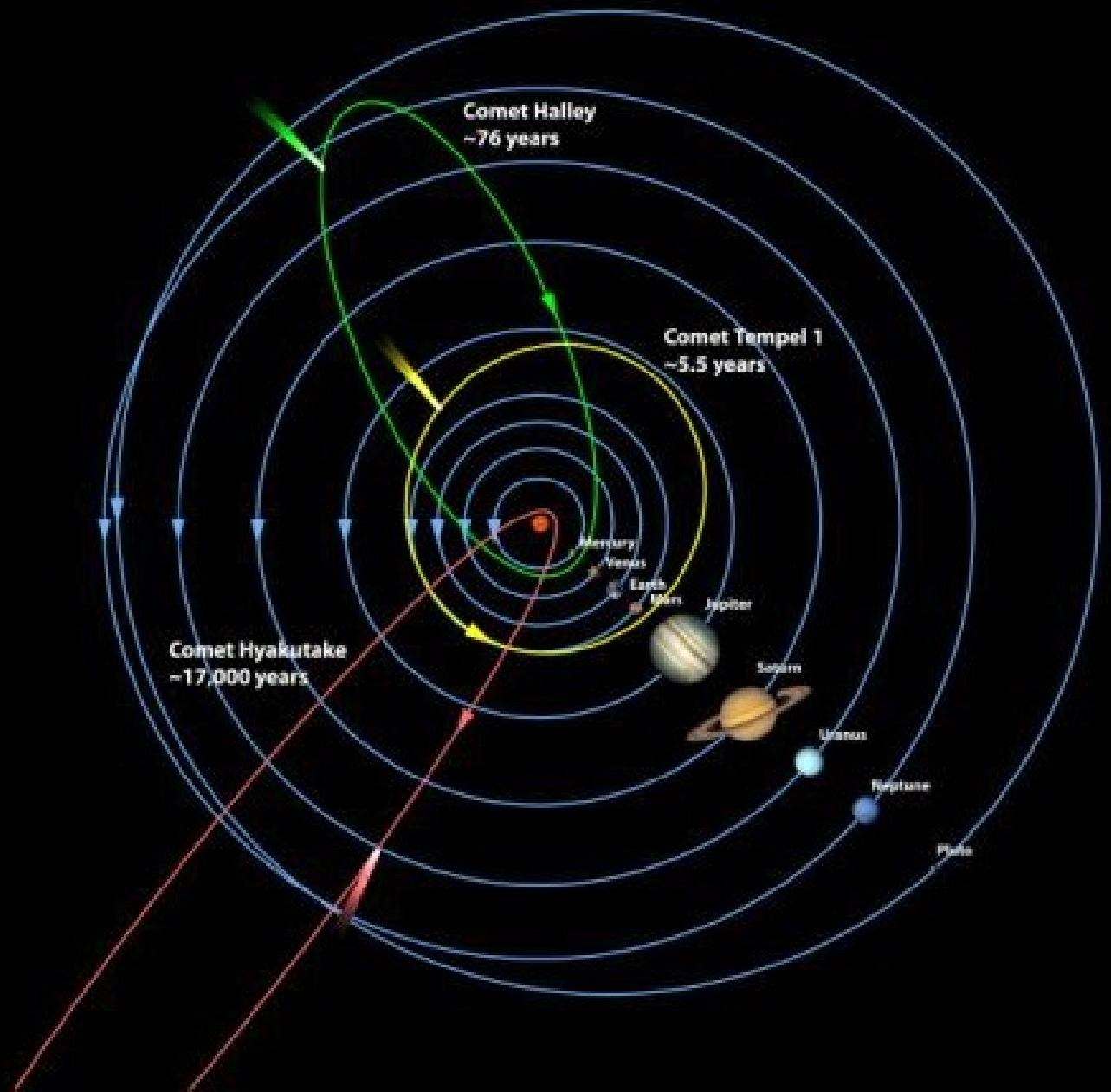
Comet 153P/Ikeya-Zhang
(C/2002 C1)



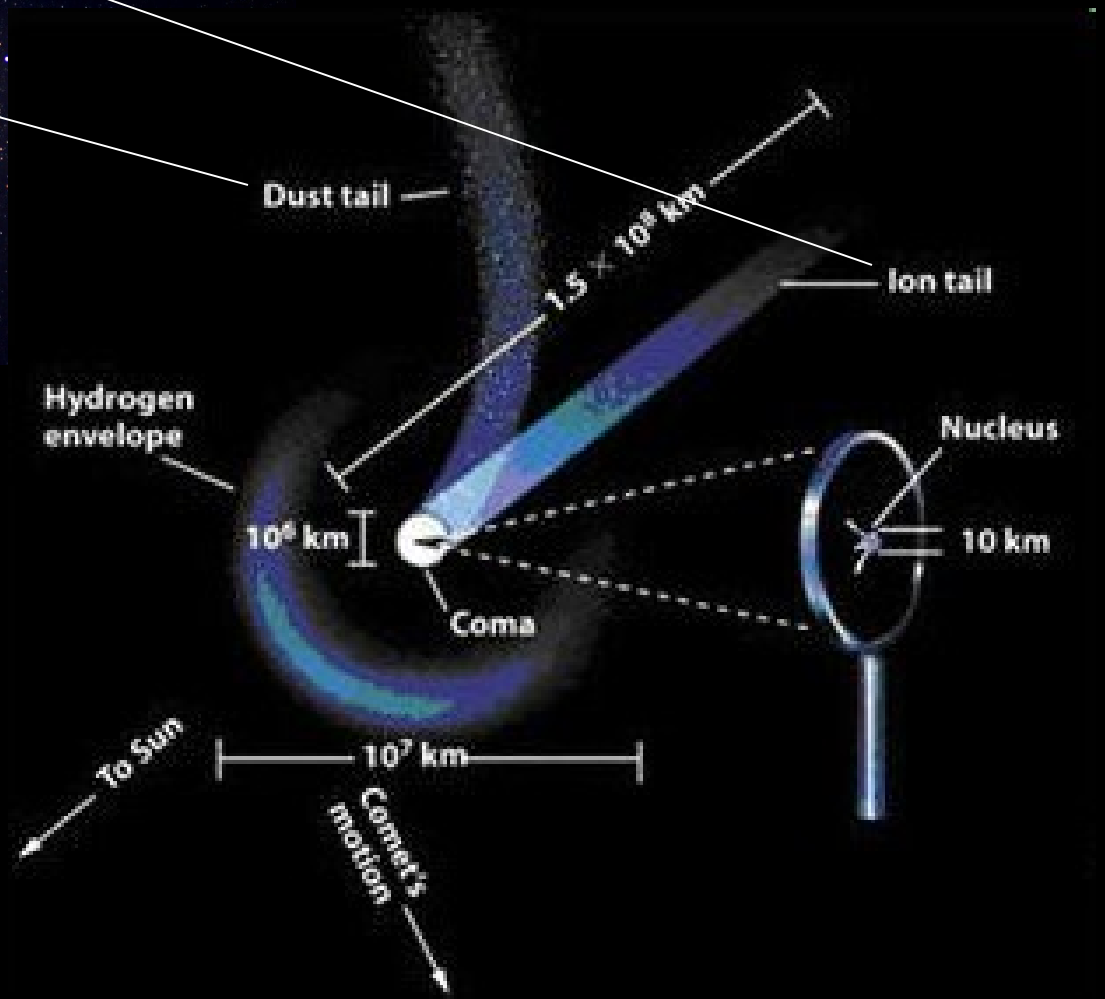
Orbite de la comète de Halley



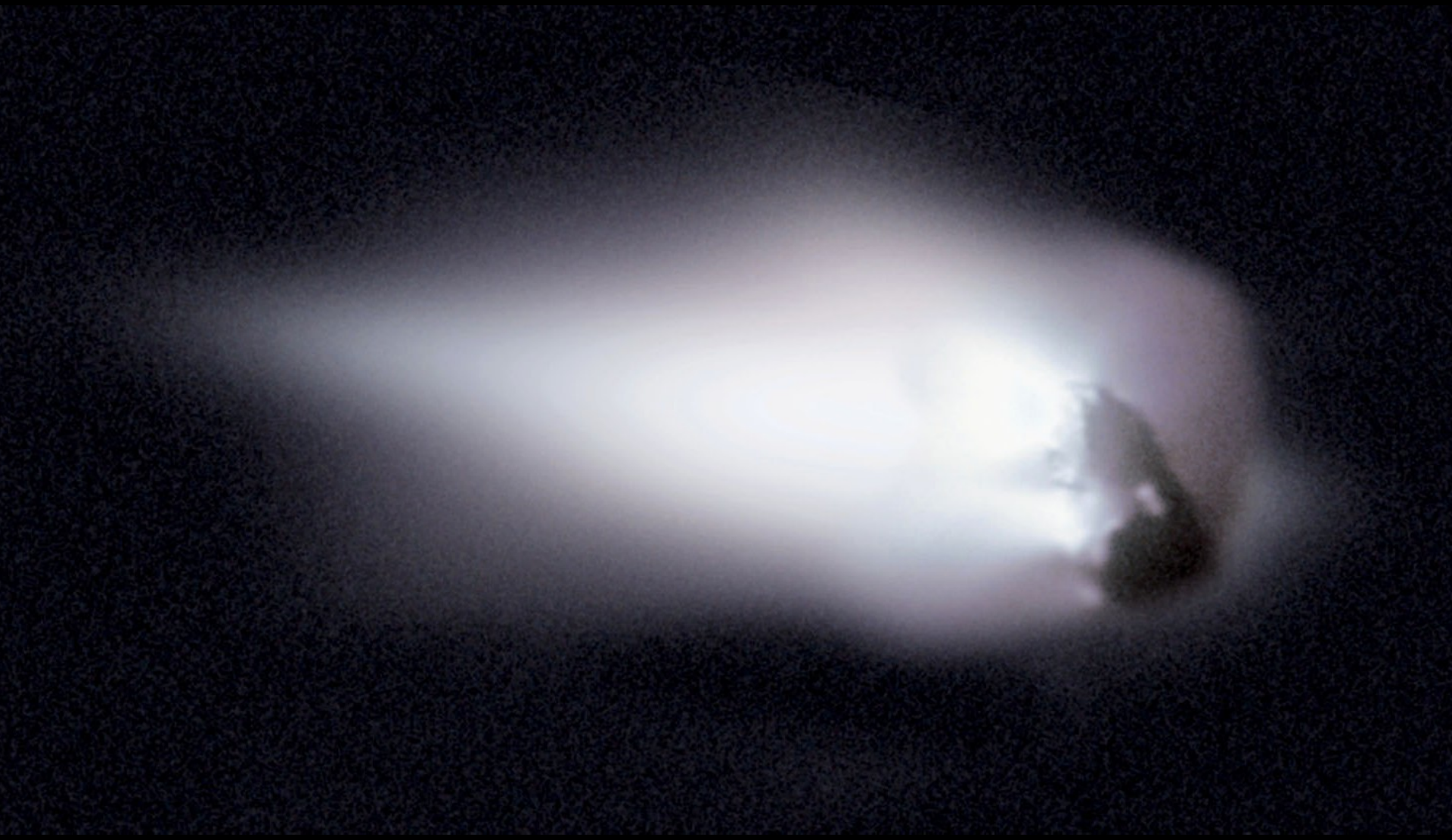
Comets Follow Different Orbits



coma = chevelure

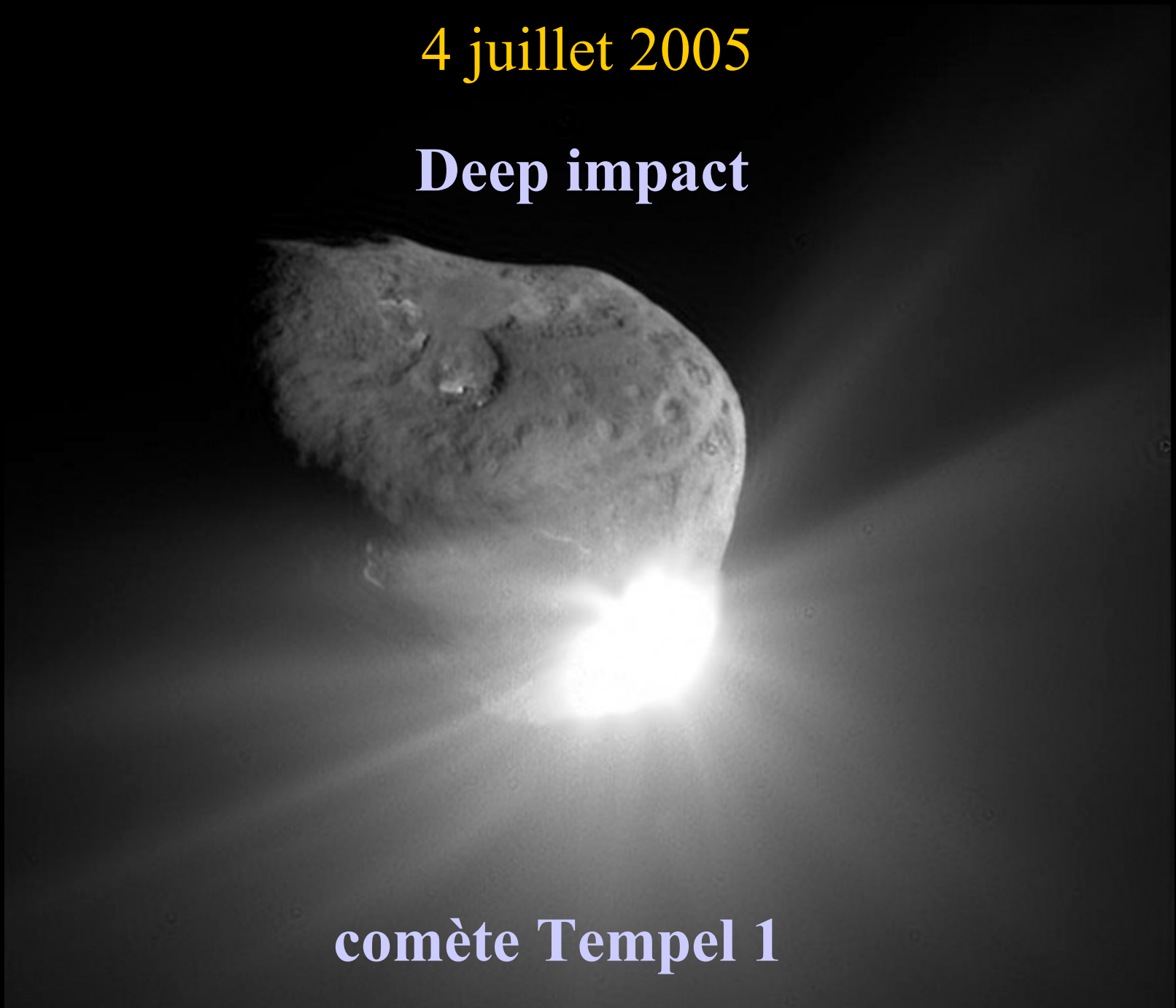


Noyau de la comète de Halley



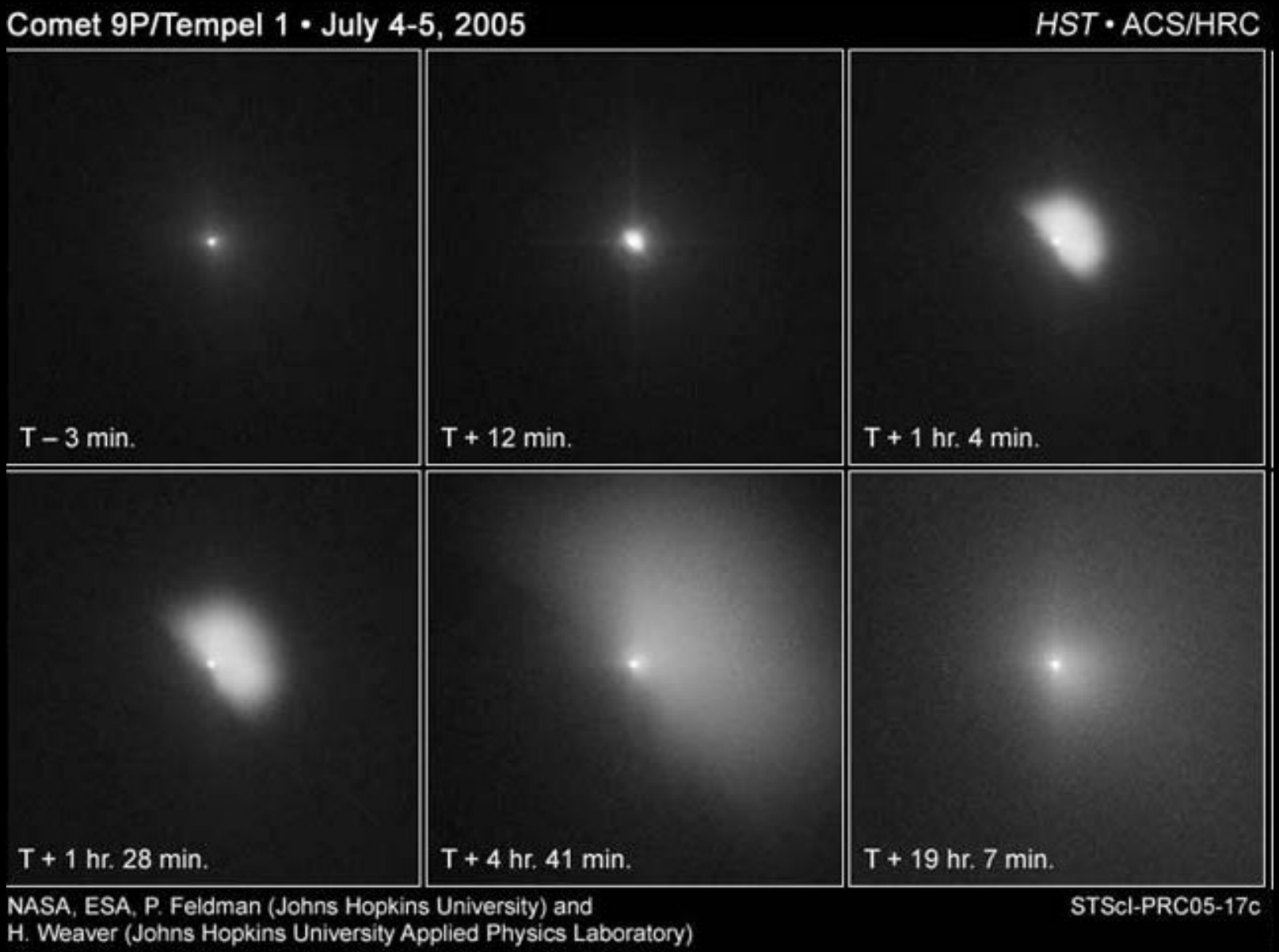
4 juillet 2005

Deep impact

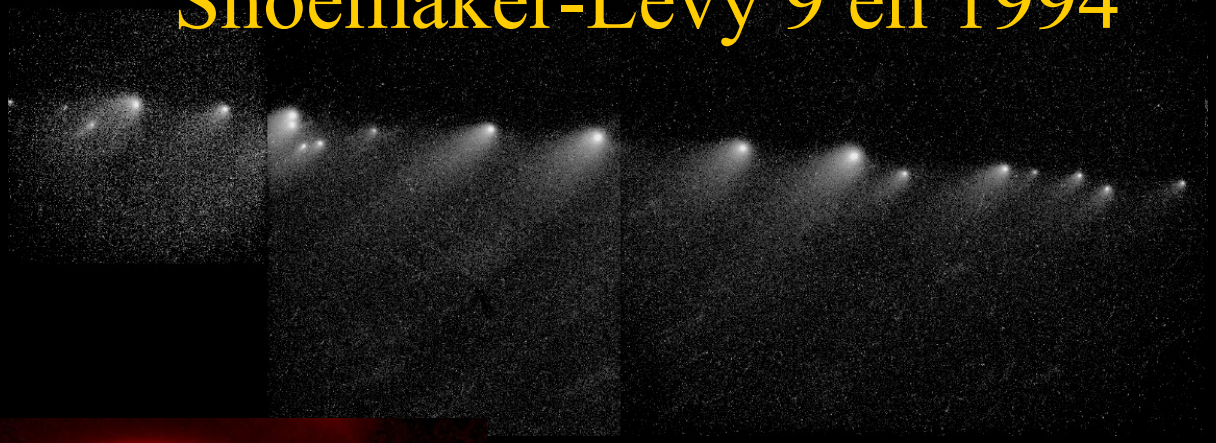


comète Tempel 1

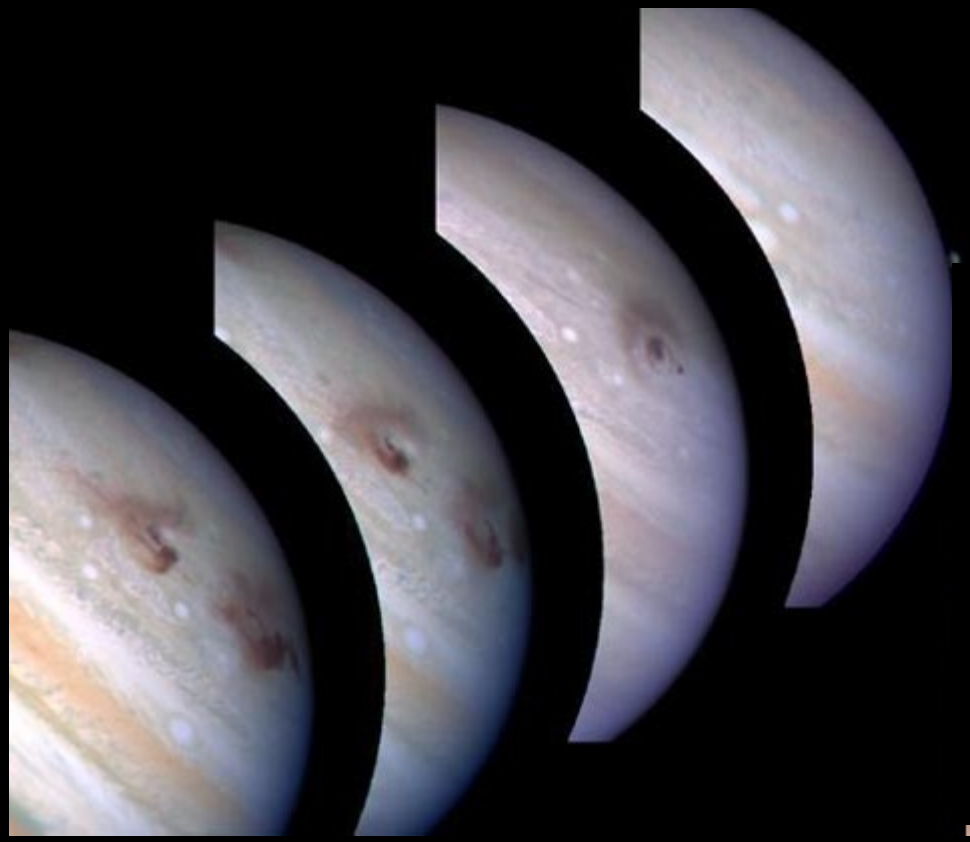
Deep impact sur la comète Tempel 1



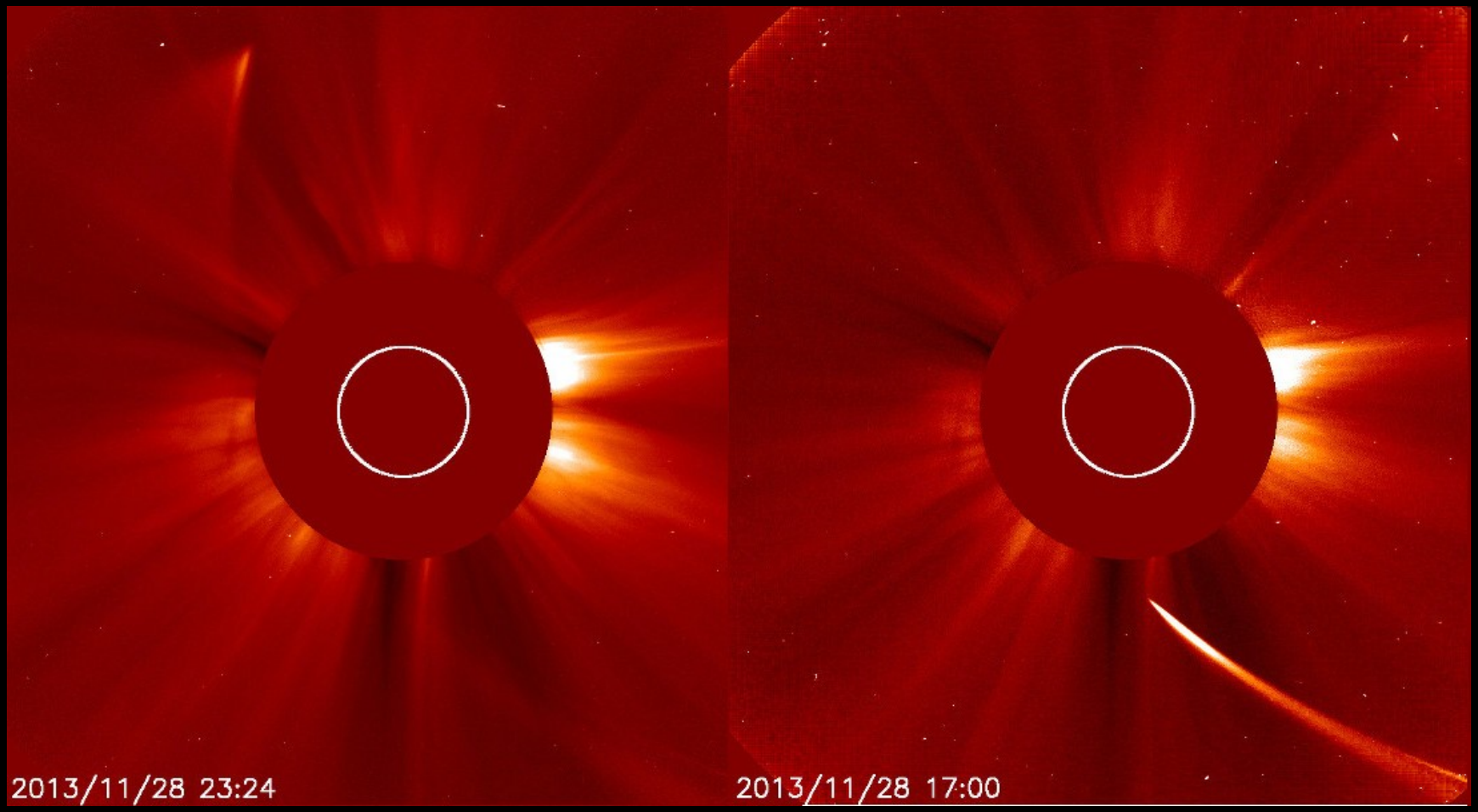
Shoemaker-Levy 9 en 1994



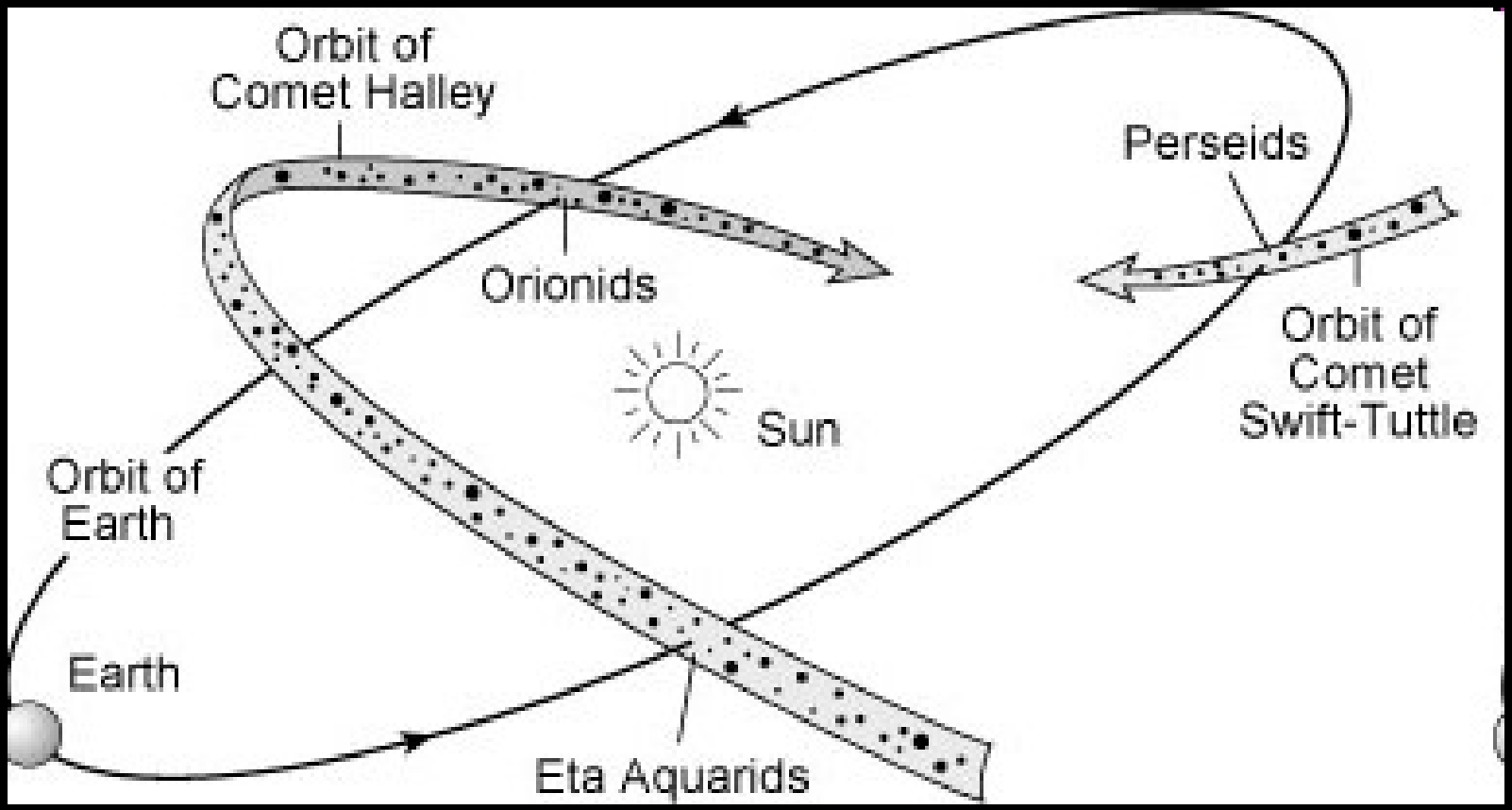
1024x1024 Near-Infrared Camera
University of Hawaii 2.2-meter telescope

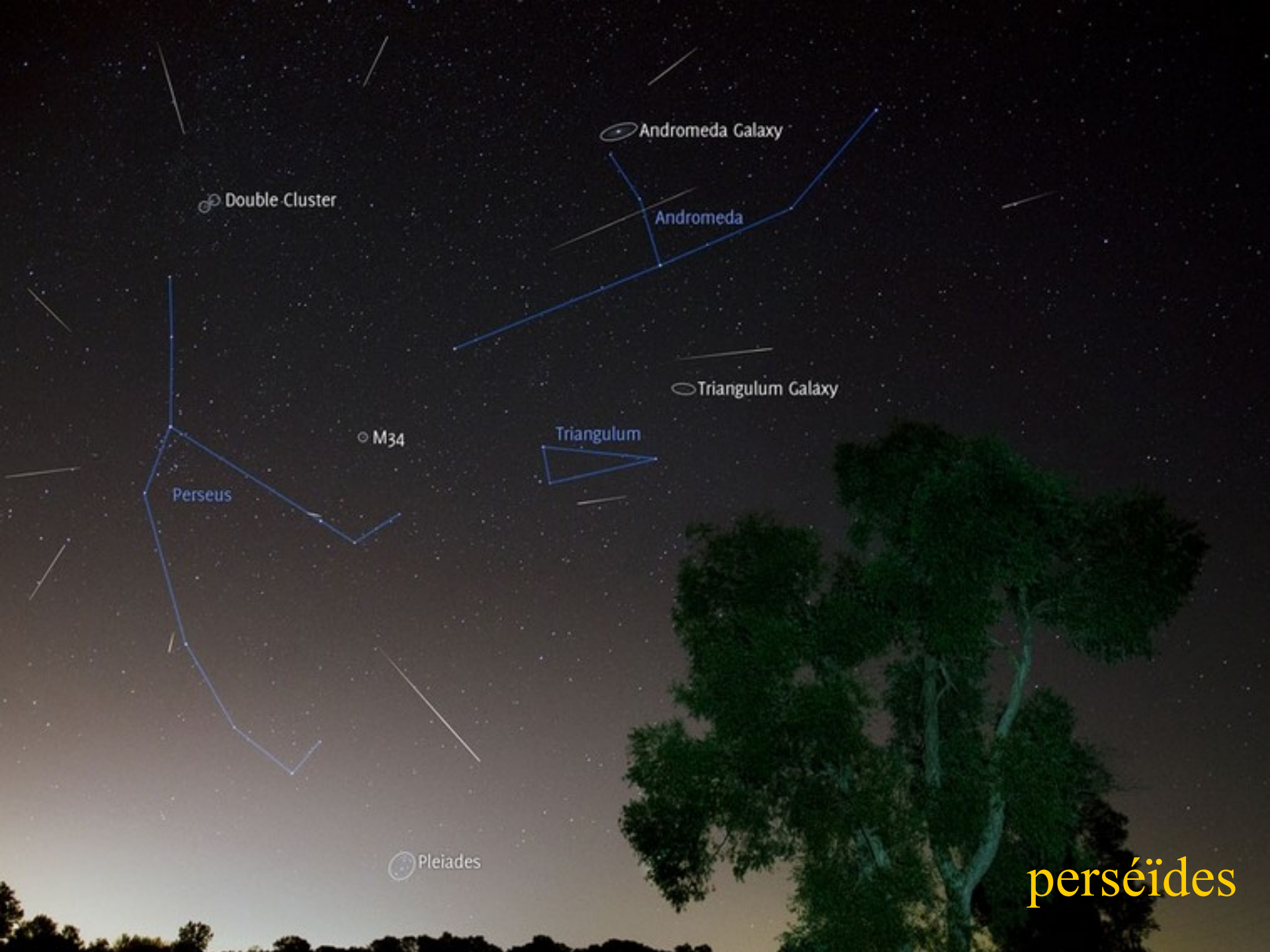


Comète ISON nov2013



ce que Halley laisse derrièe elle




Andromeda Galaxy
Double Cluster
Andromeda
Triangulum Galaxy
M34
Triangulum
Perseus
Pleiades

perséïdes

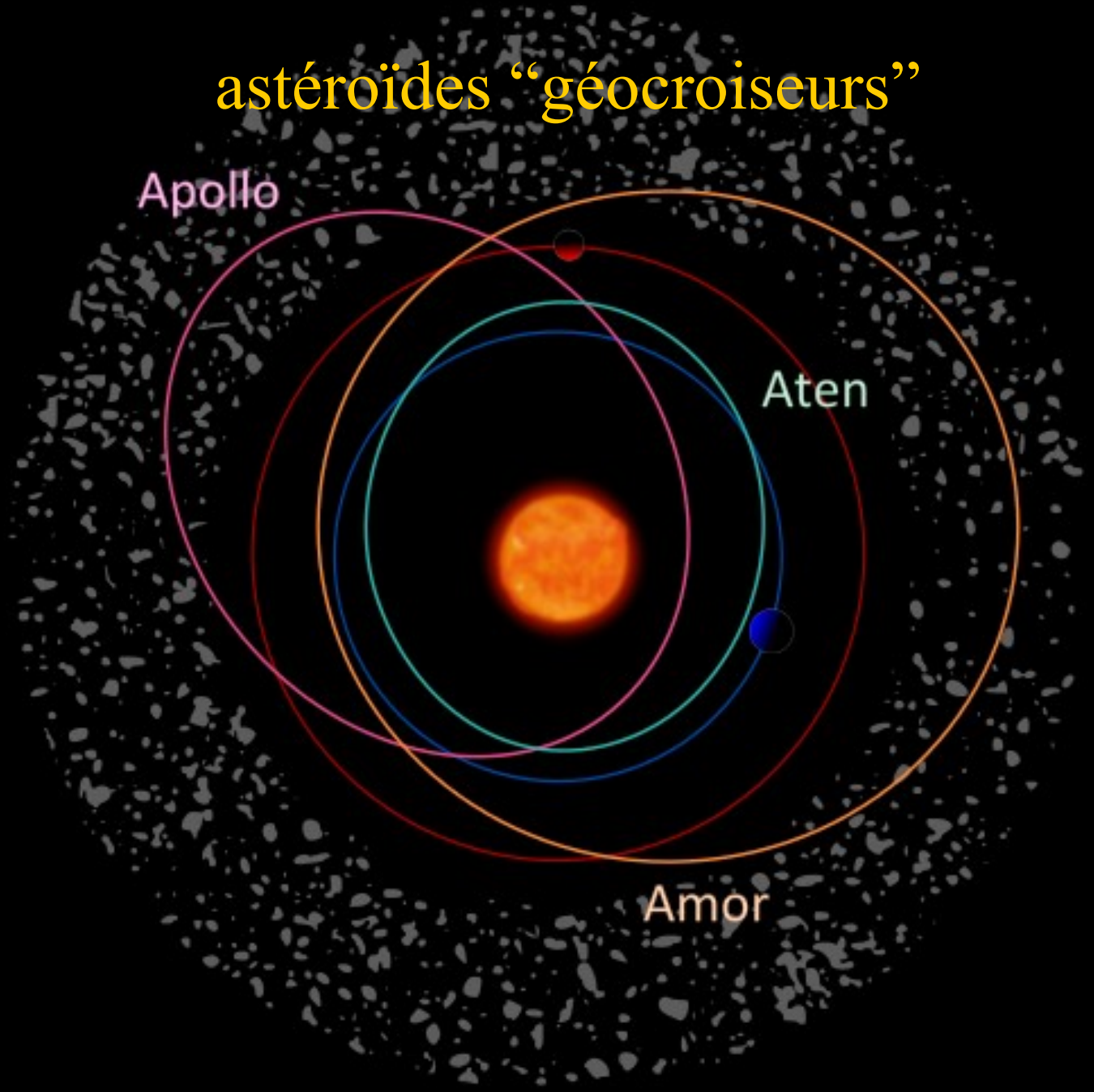
bolide or fireball (Oklahoma, 2008)

Météore et météorite d'Ensisheim (1492)

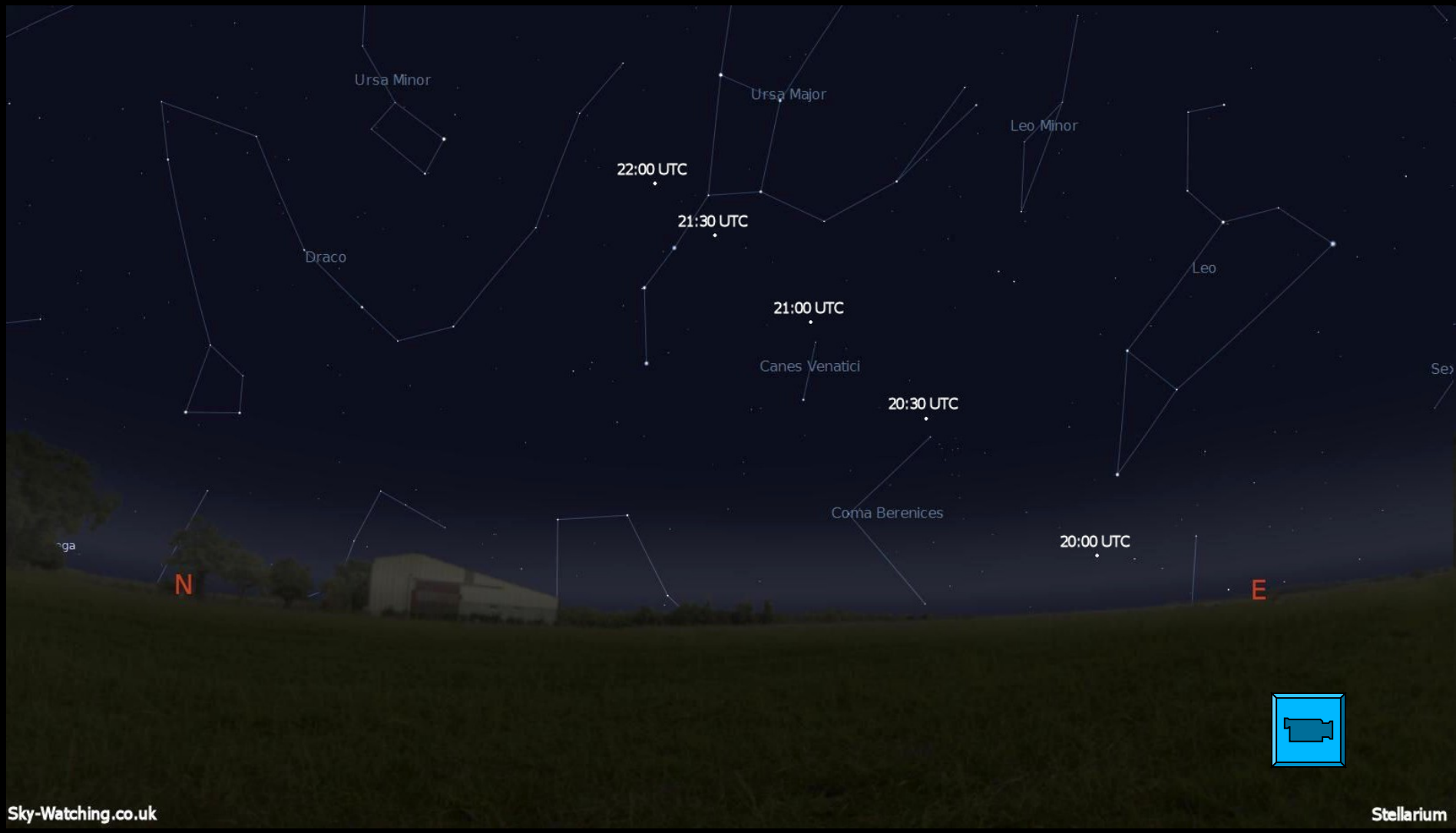
météore de Chelyabinsk (2013)

météorites de Chelyabinsk

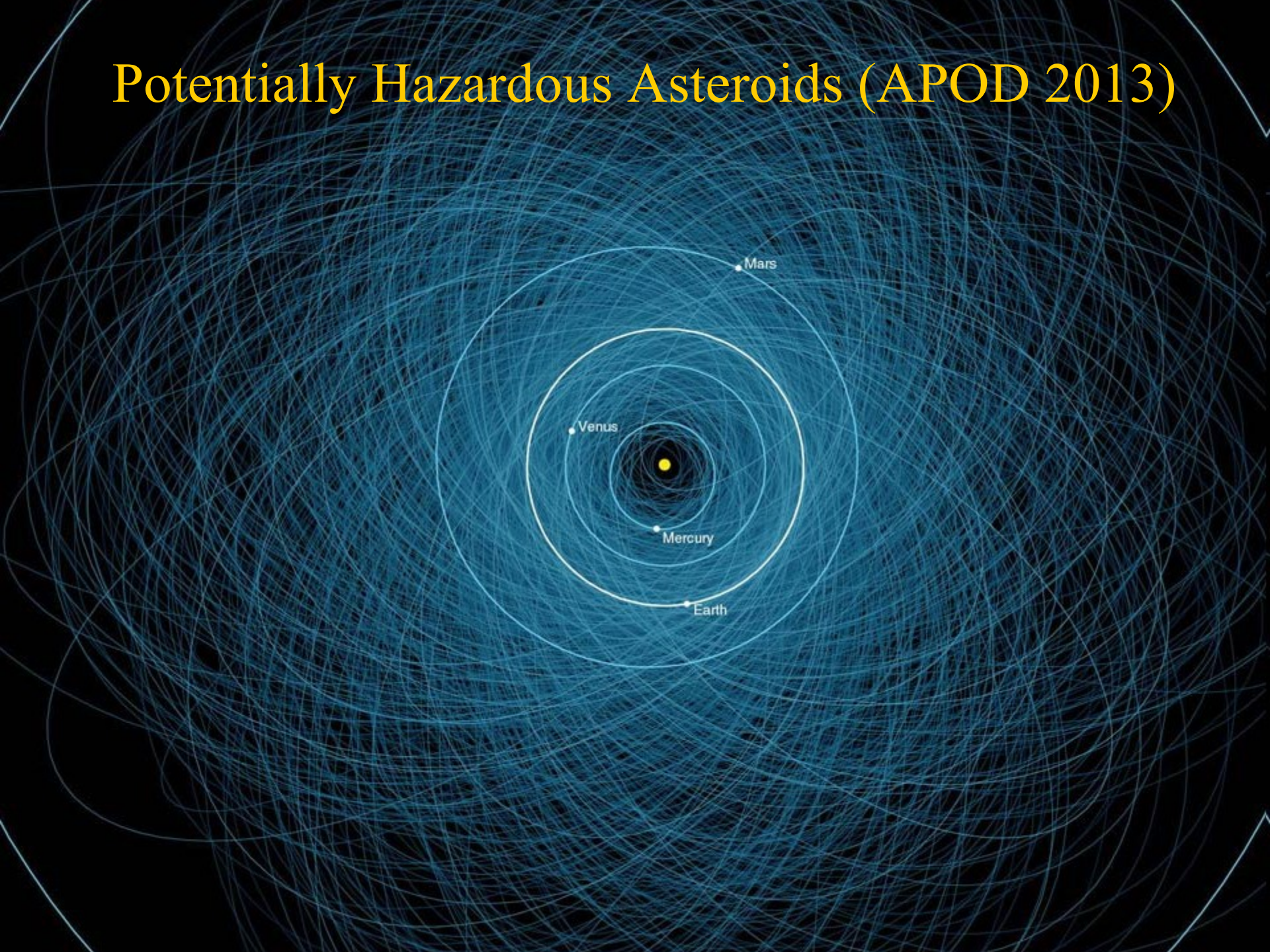
astéroïdes “géocroiseurs”



astéroïde 2012 DA14



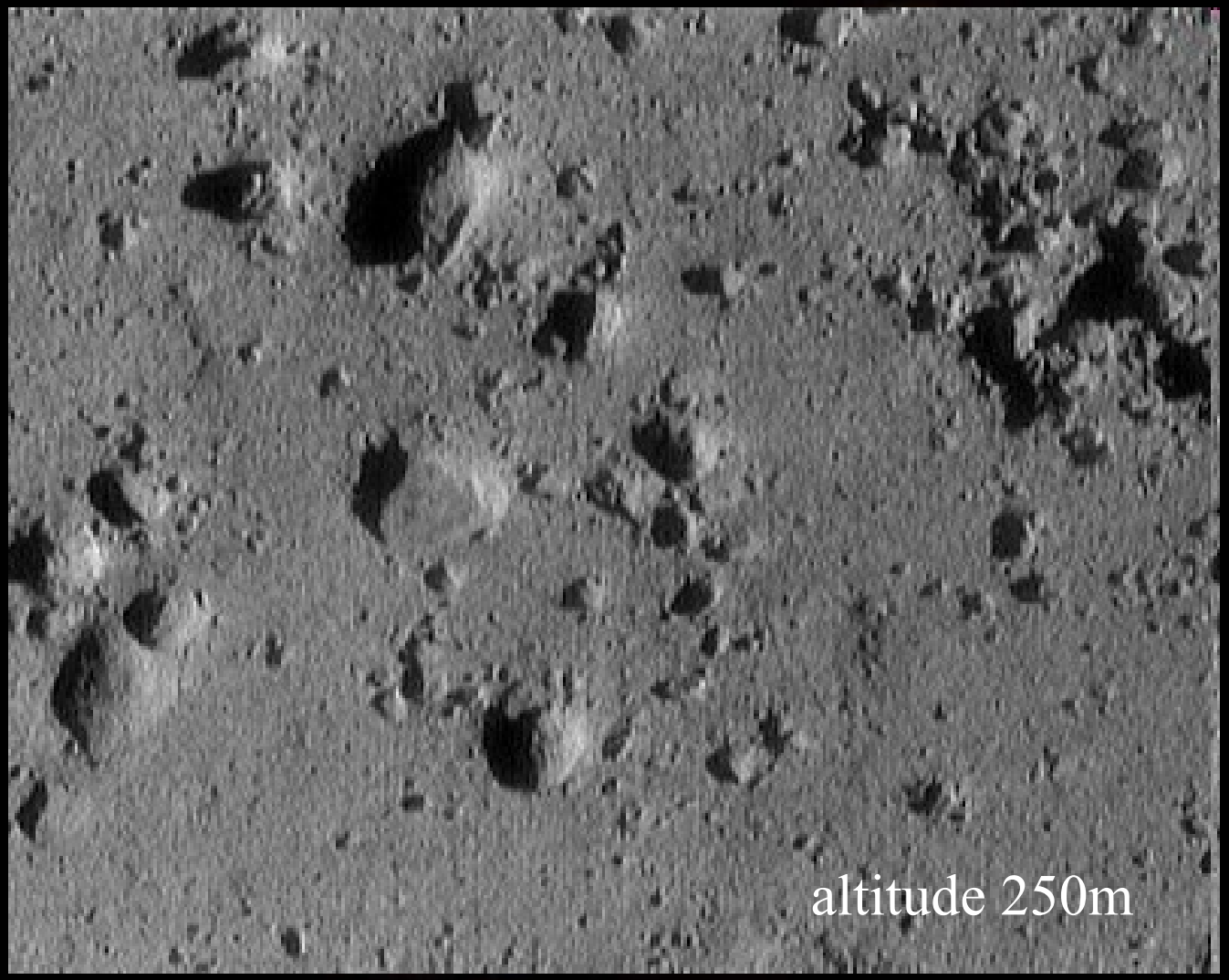
Potentially Hazardous Asteroids (APOD 2013)



astéroïde (25143) Itokawa

Hayabusa (2005)

astéroïde (433) Eros



Near Earth Asteroid Rendez-vous (2001)

astéroïdes (243) Ida et Dactyl

Galileo (1993)

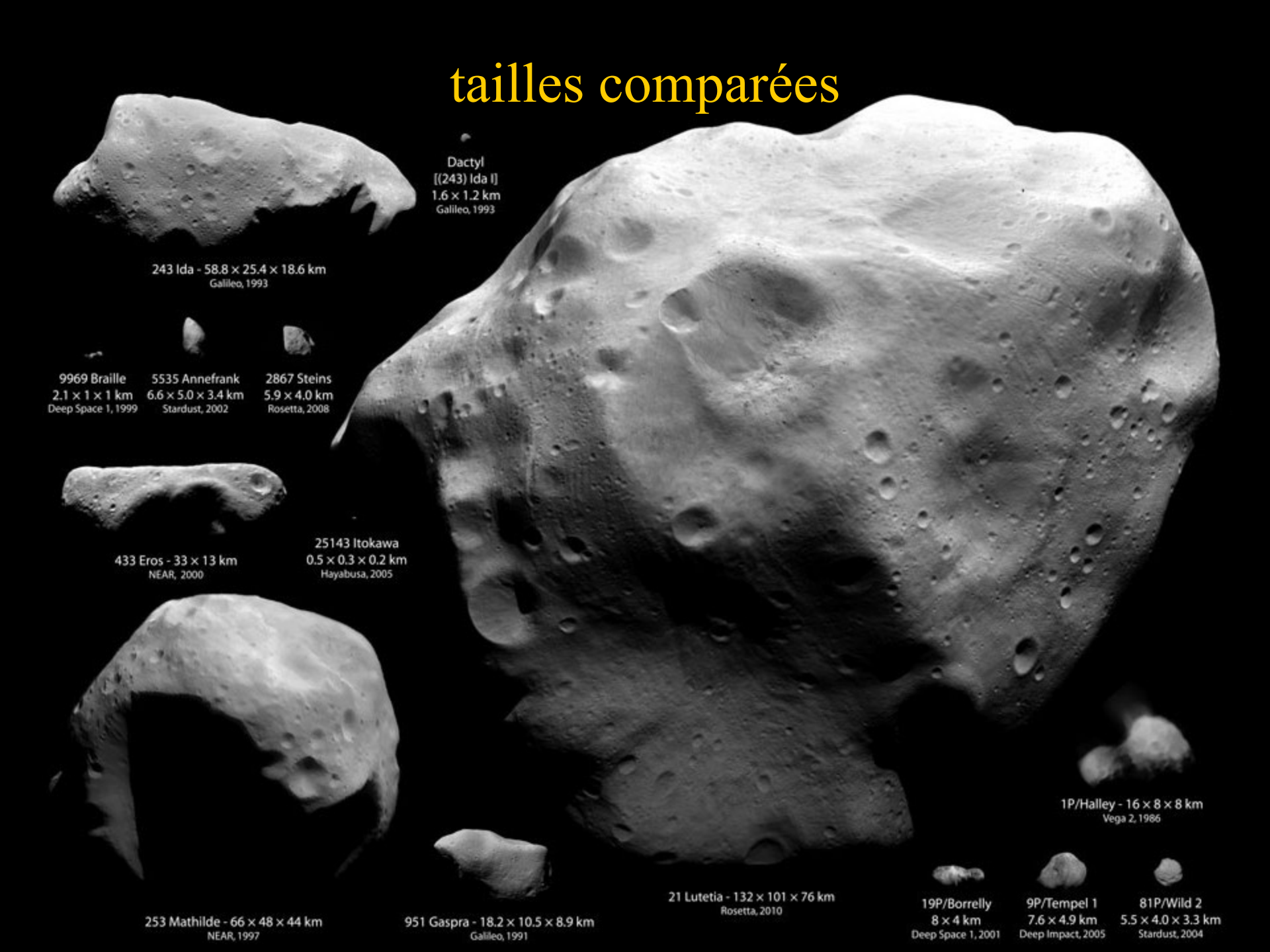
astéroïde (21) Lutetia

Rosetta (2010)

Dimension 32 m

Dimensions (132 × 101 × 76) km

tailles comparées



taille de 2012 DA14

impacts

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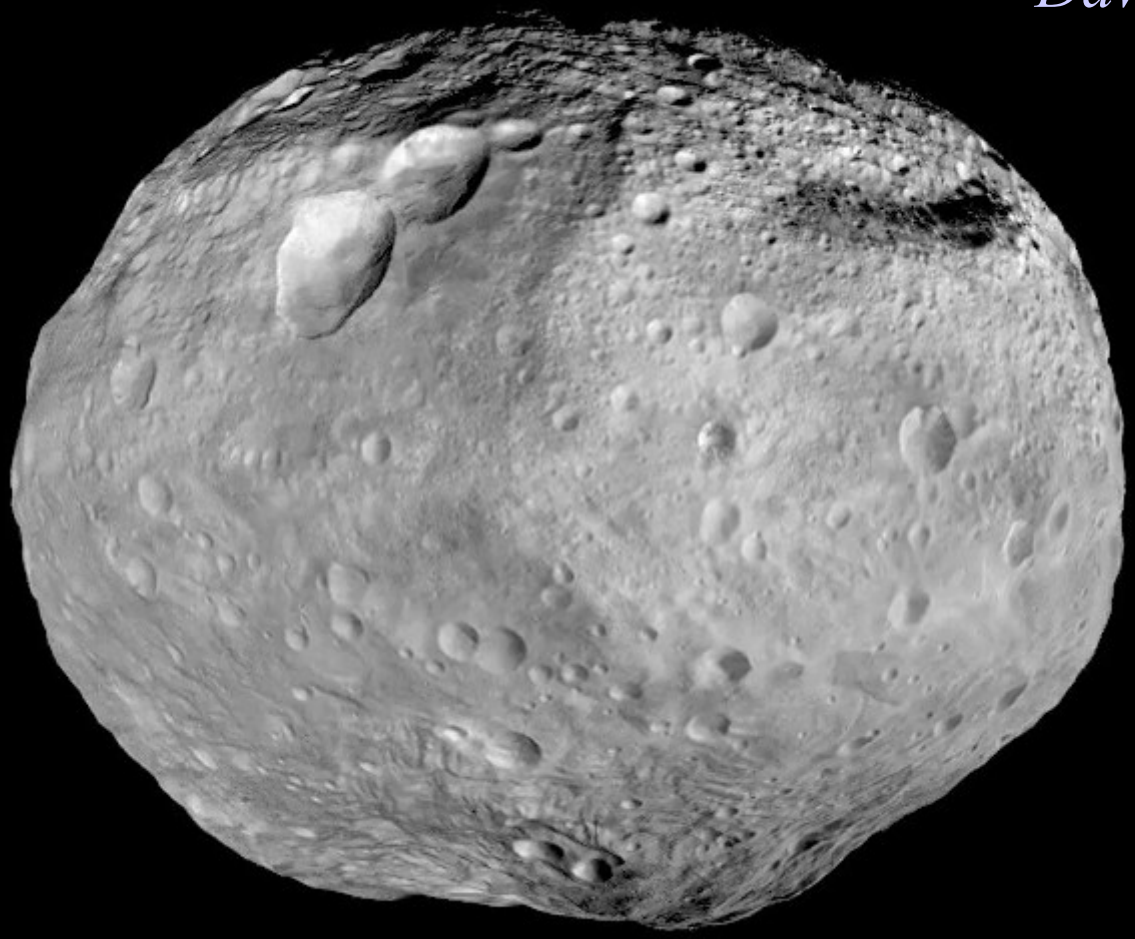
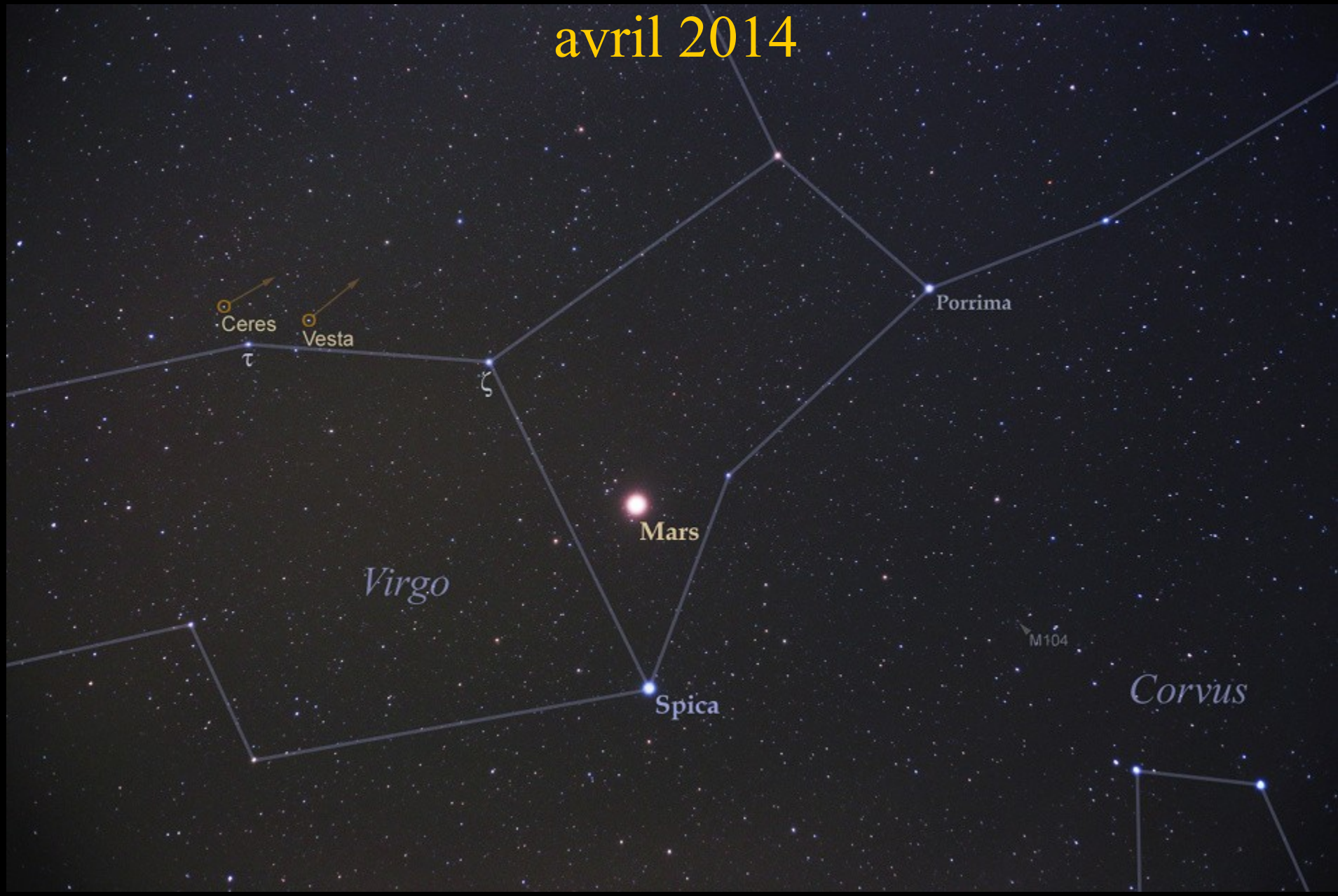
astéroïde (4) Vesta

Dawn (2011)

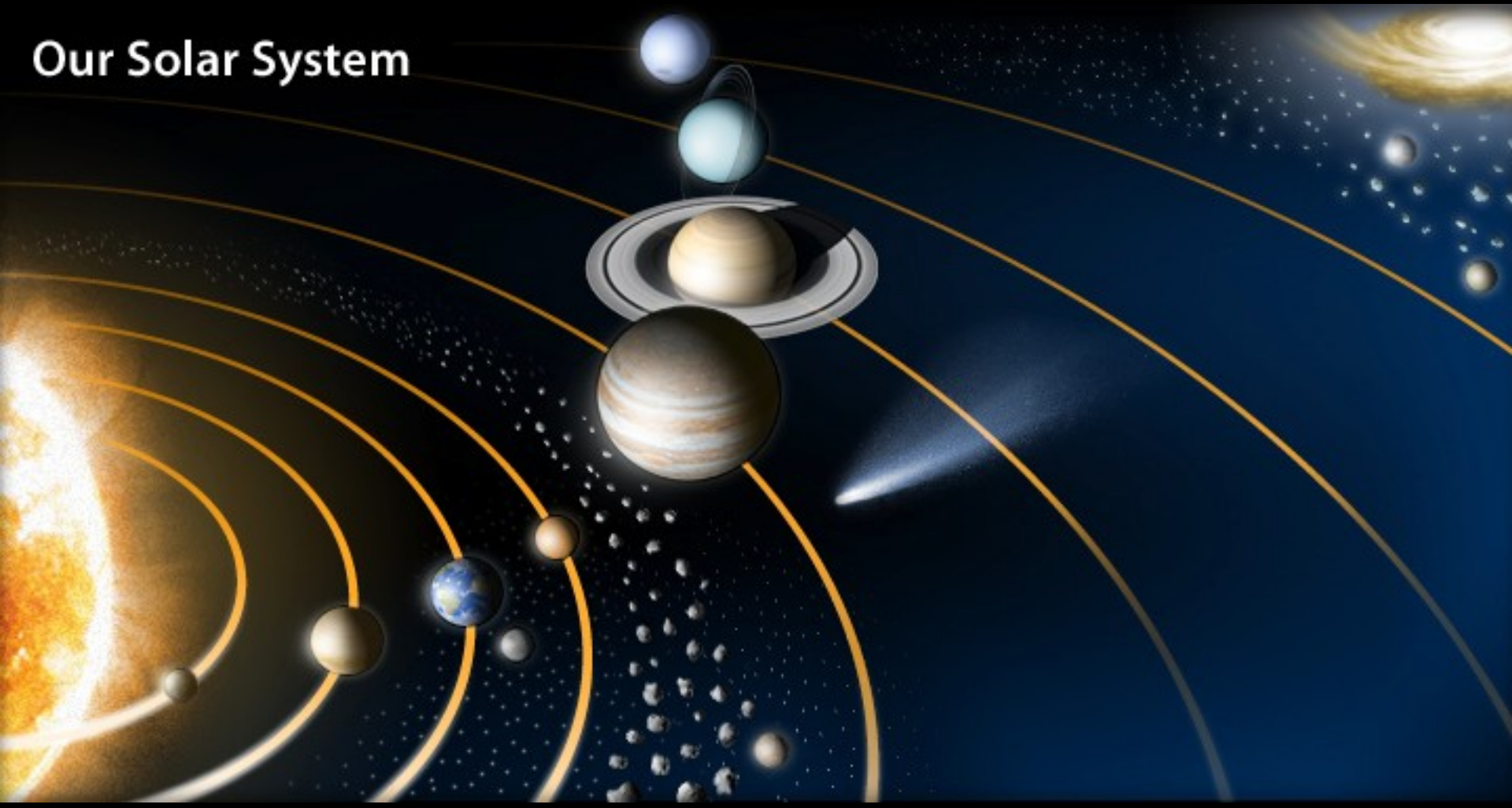


Dimensions (572.6 × 557.2 × 446.4) ± 0.2 km

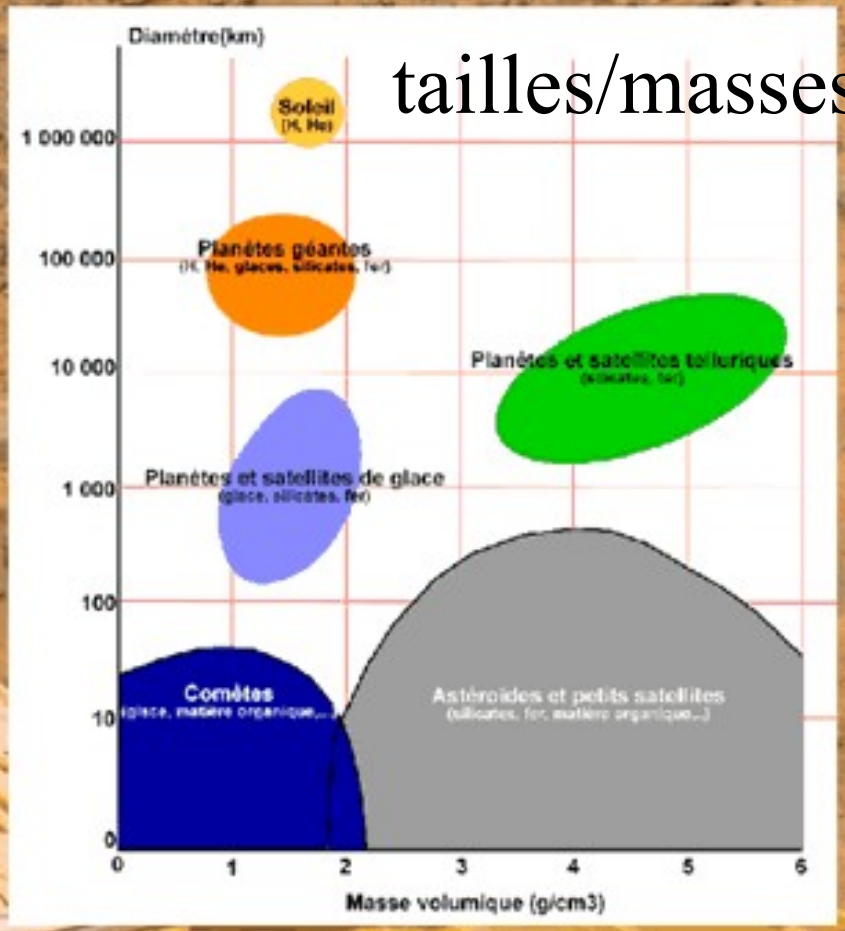
avril 2014

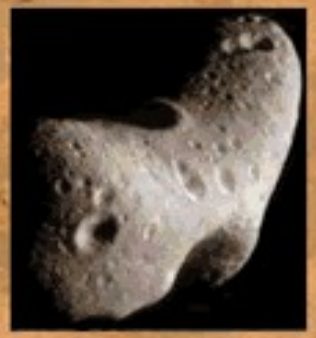


Système Solaire



Les différents types de corps du système solaire

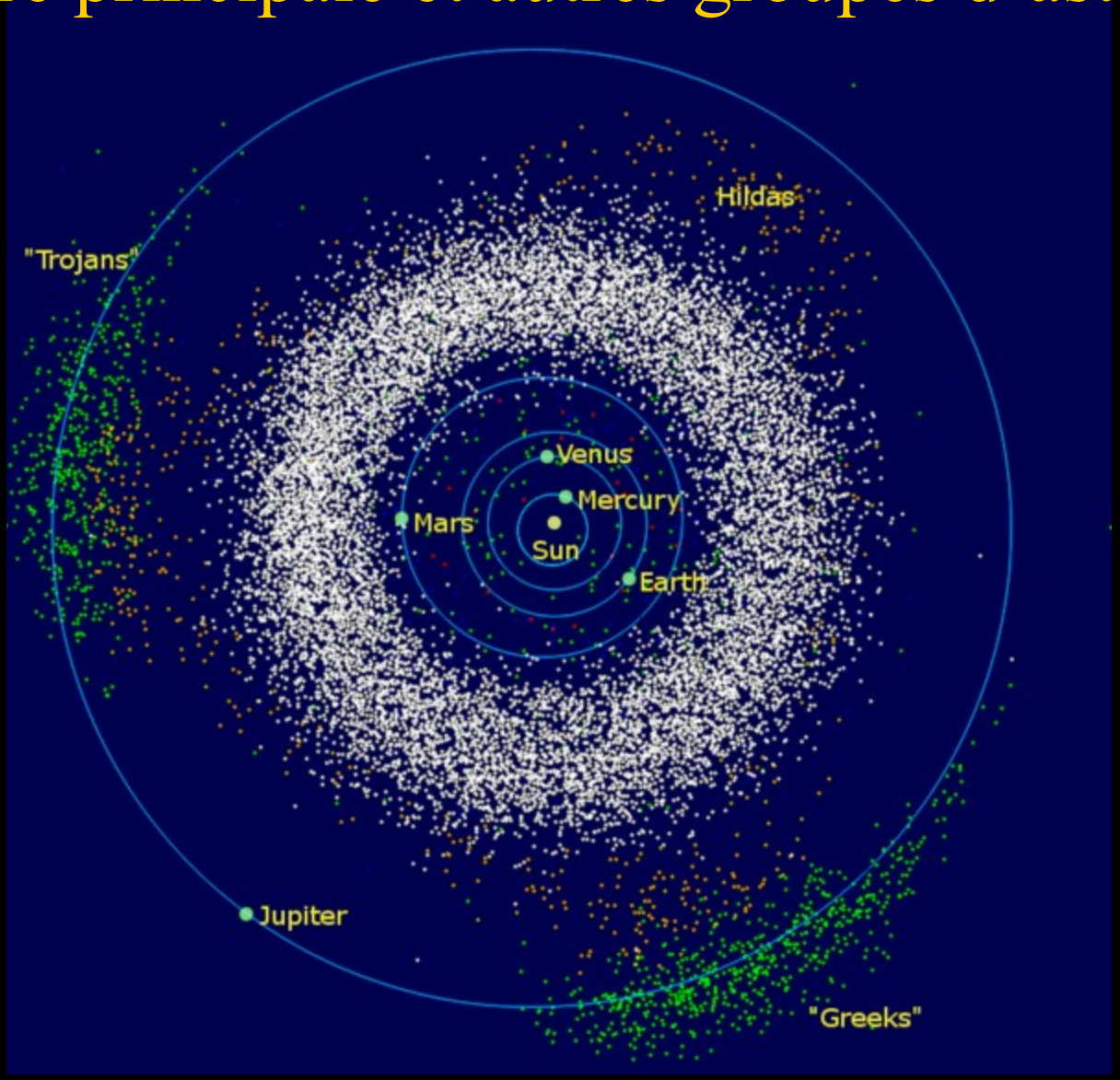




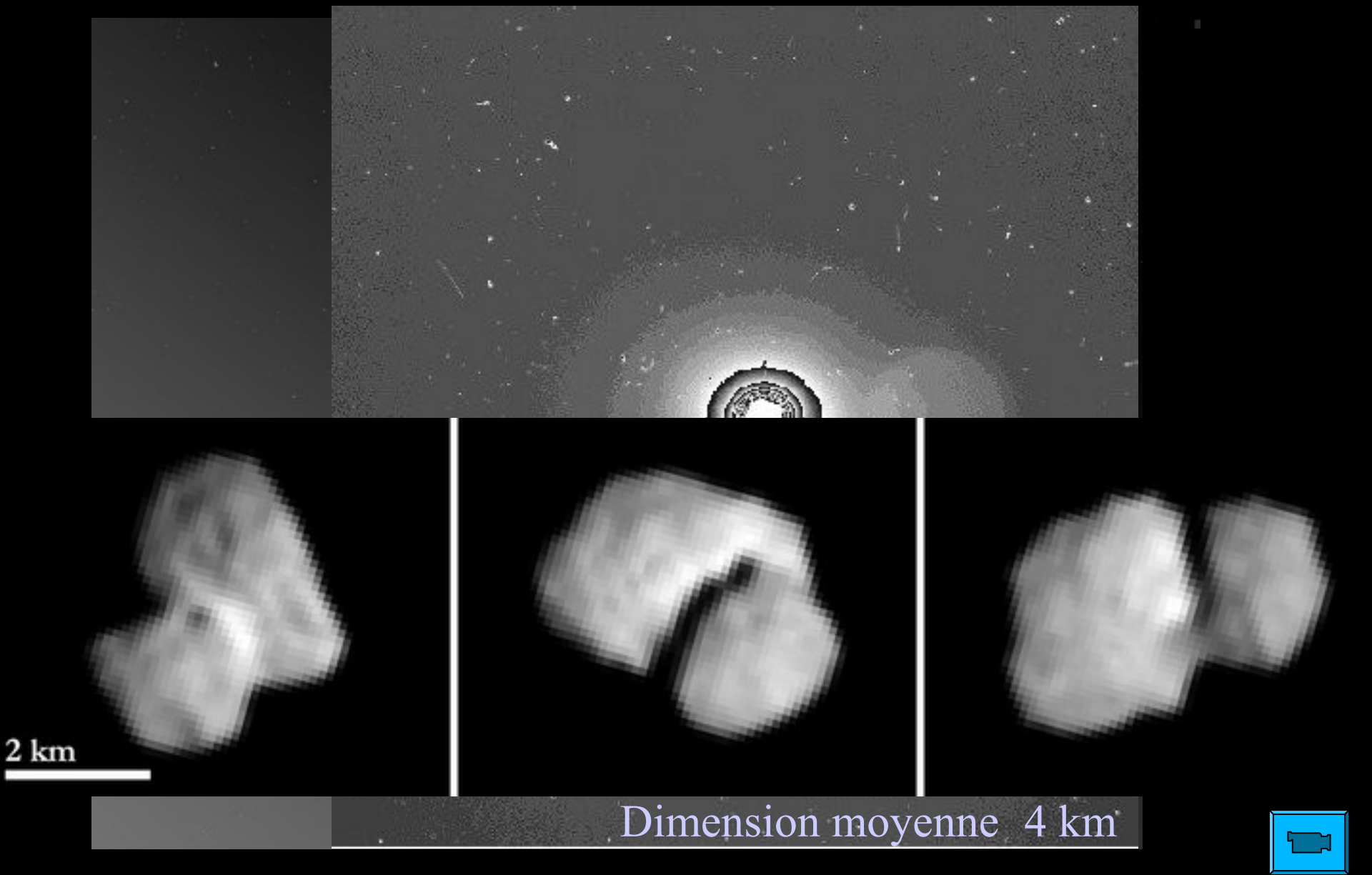
Le message des météorites, Tristan FERROIR, ENS Lyon, 2006

comète ou asteroïde P/2013 P5

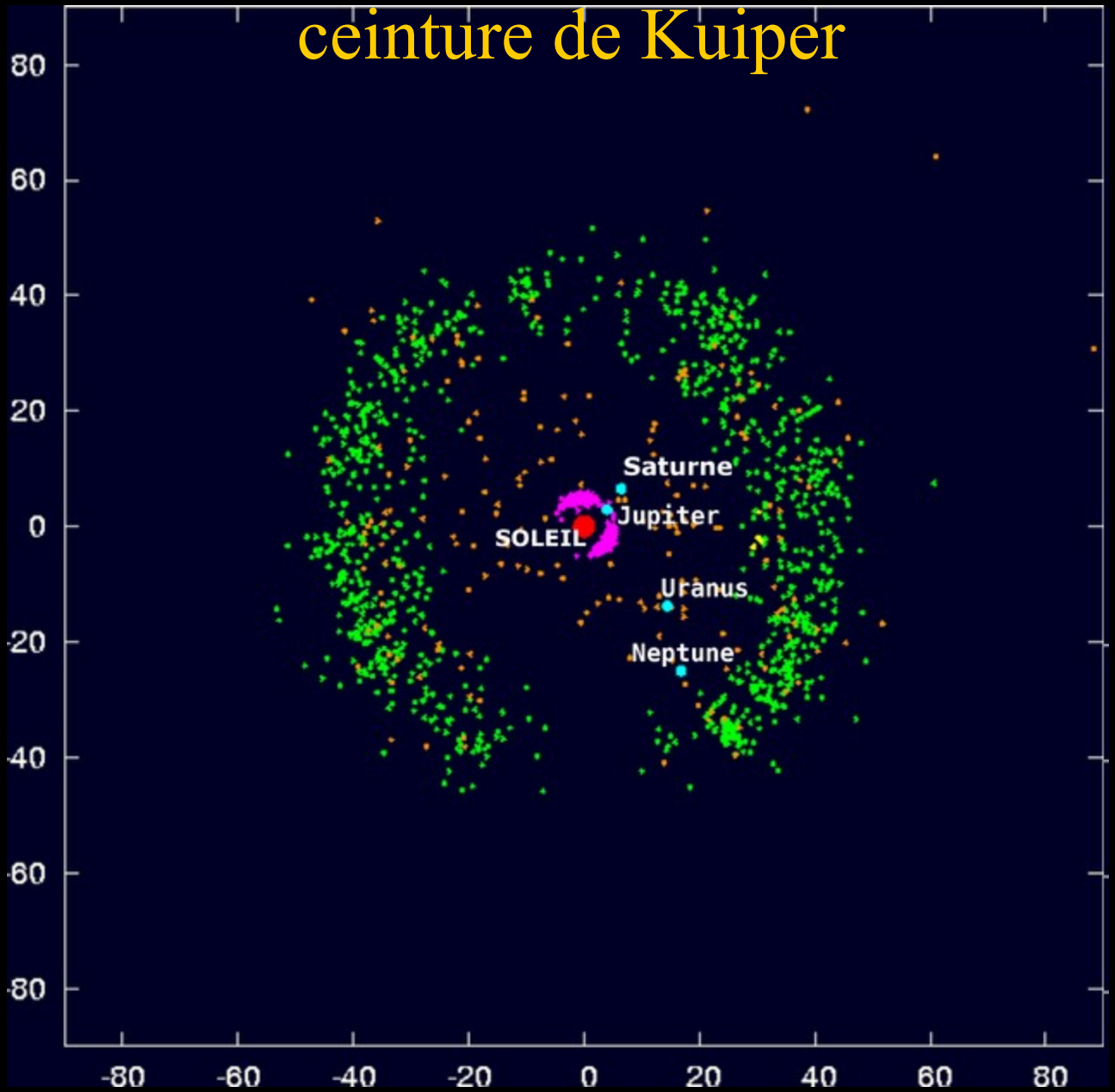
ceinture principale et autres groupes d'astéroïdes



67P/Churyumov–Gerasimenko

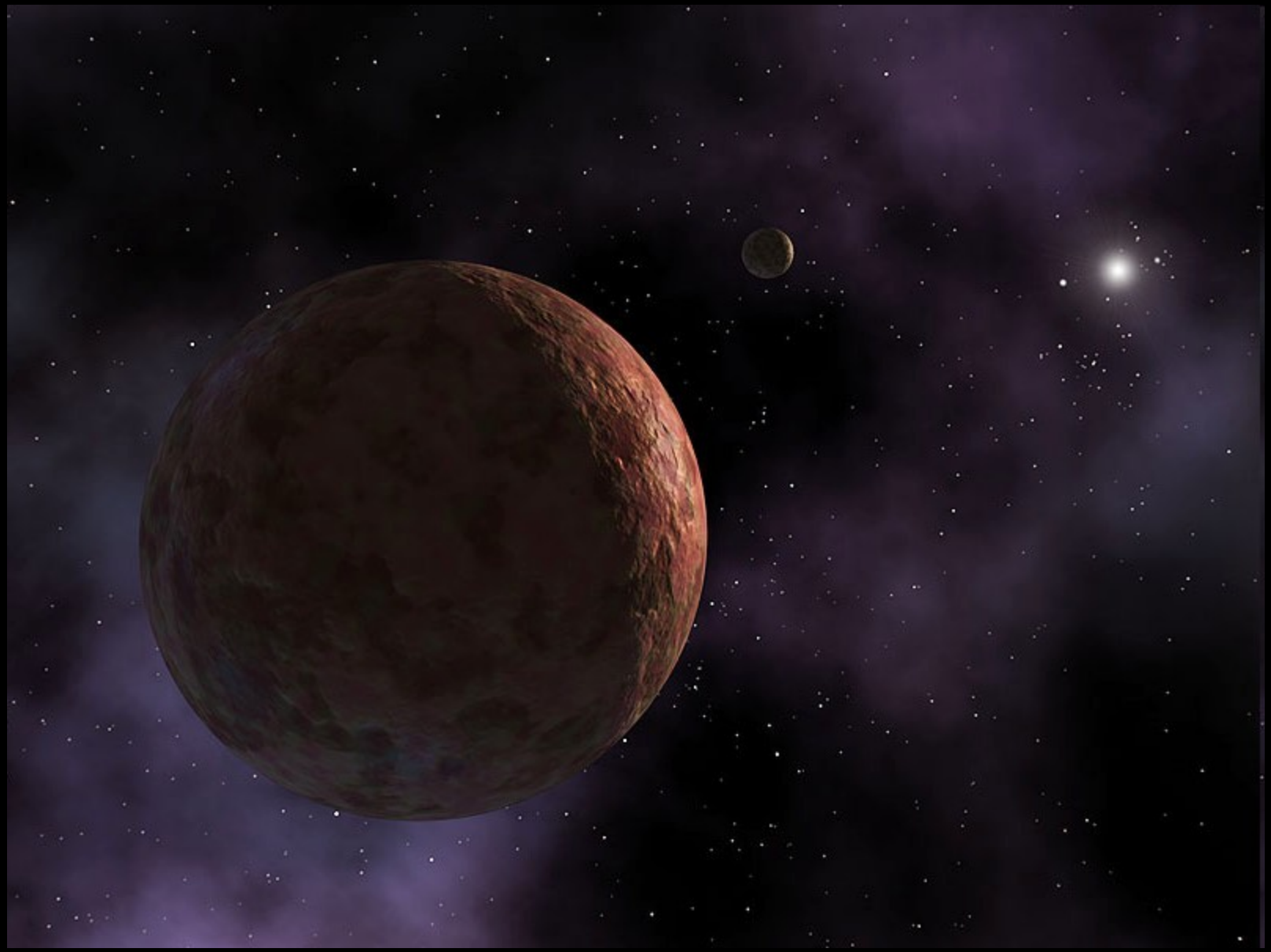


ceinture de Kuiper



(136199) Eris = 2003 UB313 et Disnomia

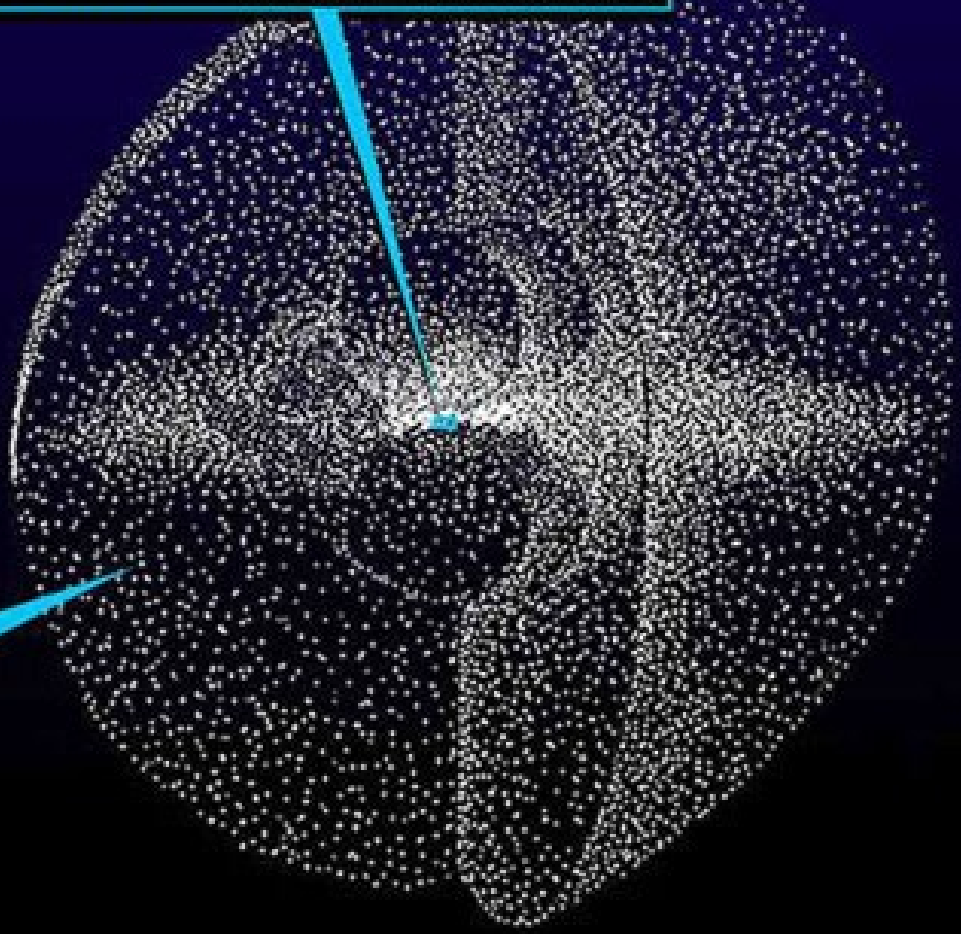
(90377) Sedna = 2003 VB12



The coldest most distant place known in the solar system

Kuiper et Oort

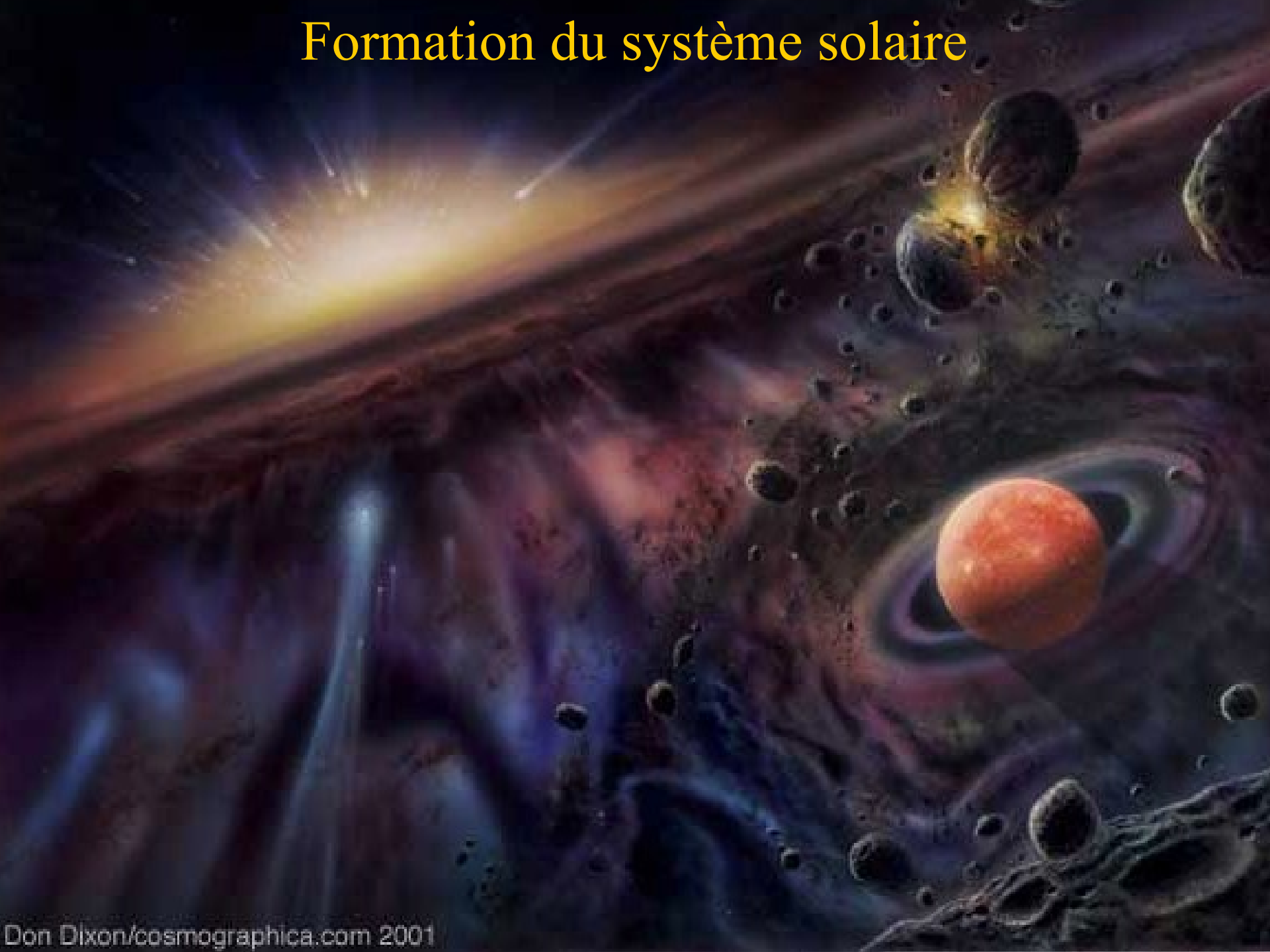
x 1000



Le nuage d'Oort.
(contient des milliards
de comètes)

Oort Cloud cutaway drawing adapted from Donald K. Yeoman's illustraton (NASA, JPL)

Formation du système solaire

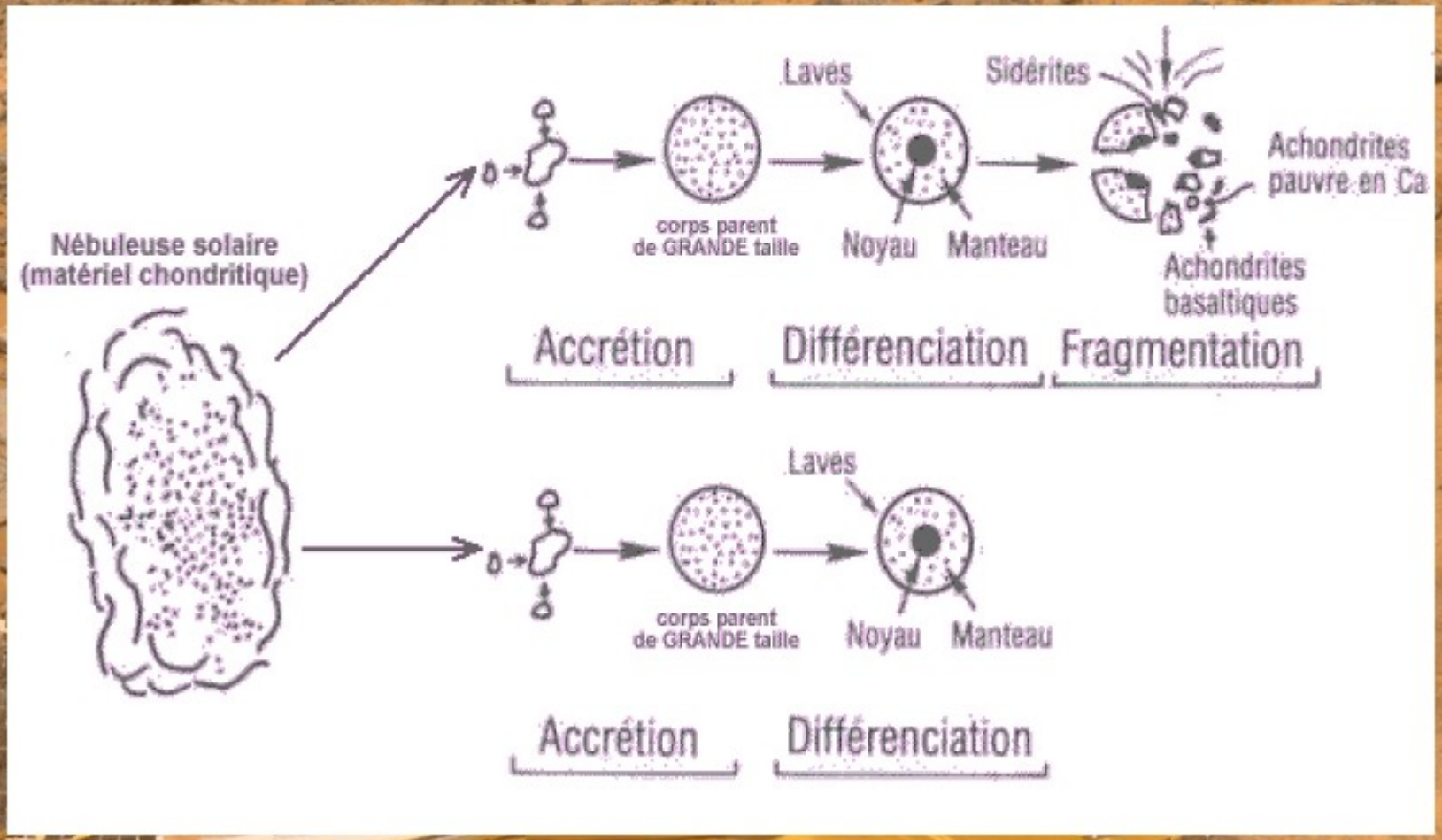


Une petite expérience... pour créer les météorites et le système solaire

- Prenons le Soleil sans ses gaz et refroidissons le

Le message des météorites, Tristan FERROIR, ENS Lyon, 2006

Météorites et système solaire



Le message des météorites, Tristan FERROIR, ENS Lyon, 2006

Webographie

- Astronomical Picture Of the Day, NASA
  http://apod.nasa.gov/apod/archivepix.html
- Wikipedia http://fr.wikipedia.org/wiki/Système_solaire
- The Comet's Tale
  http://cse.ssl.berkeley.edu/SegwayEd/lessons/cometstale/com.html
- Rosetta http://www.esa.int/Our_Activities/Space_Science/Rosetta
- IAU Minor Planet Center
  http://www.minorplanetcenter.net

Mission Rosetta – août 2014