

Lecture I2 – 26 February 2009



- **SCIENCE TOPICS:**
Inventory of Solar System
(cont.)
- **READING**
Ch 4, sec 4.1-4.3,
Ch 6, sec 6.1, 6.2.
Beware of excessive detail
in the textbook
- **PRACTICE**
p. I28-9 Summary: I-5
p. I29 Review: I-8

**HWK 5: due Tuesday,
24th March 2009**
**TEST 02: week today,
5th March 2009**

Homeworks

- Hws slightly out of sync with lectures.
 - Hw05 now not due until **24th March 2009**
- Two submissions per one 24 hour period
 - e.g. if you do 2 submissions at 9pm on Monday, you have to wait until 9pm Tuesday to resubmit again.
- Homework 04....

No good deed goes unpunished: An apology

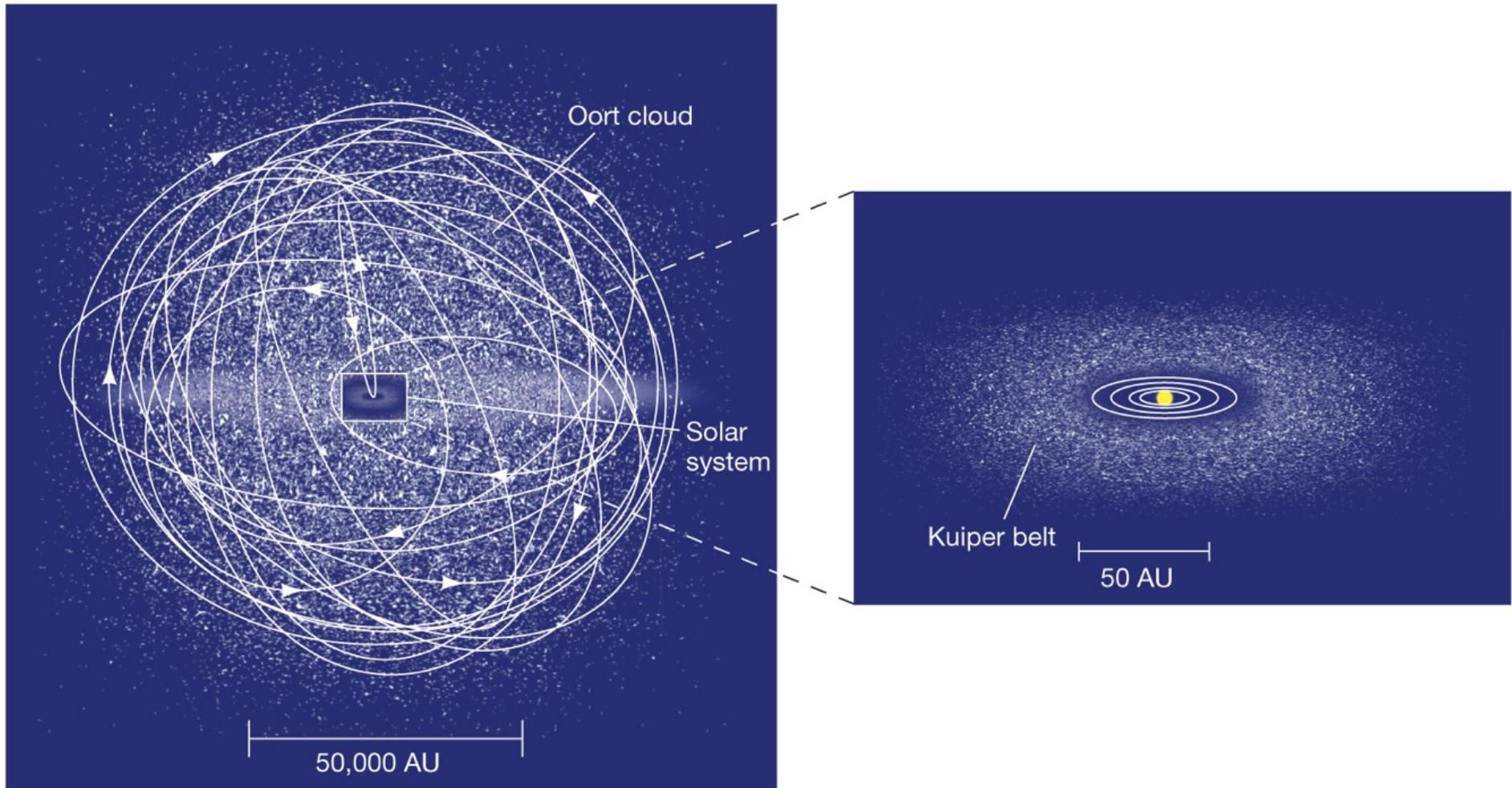
- Homework 04
 - Question 9 was tricky but also wrong (Diameter should have been radius). This led to a lot of confusion.
 - I realized the mistake just before 5pm on Tuesday. Updated the course website and the Schreyer Homework website. Clicked the wrong button...
 - Caused the scores to be reset. Have no information on submissions before 4:40pm on Monday 23rd Feb or between 12noon-4:55pm on Tuesday 24th Feb.
 - BUT! Had already released the answers to Hw04.
 - So, could re-open Hw04, but in fairness, **Hw04 won't count at all.** Apologies to those who spent time and submitted. N.B.: I Hw < I question on a test.

Annoucements

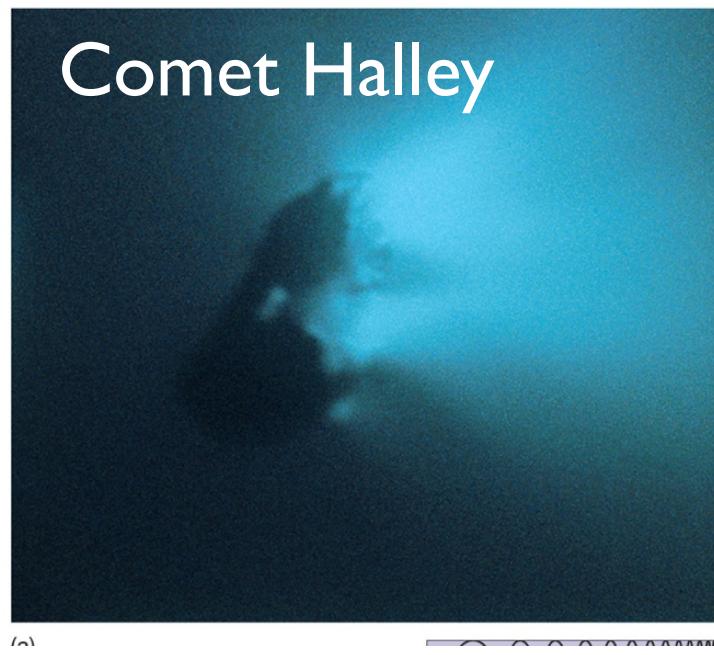
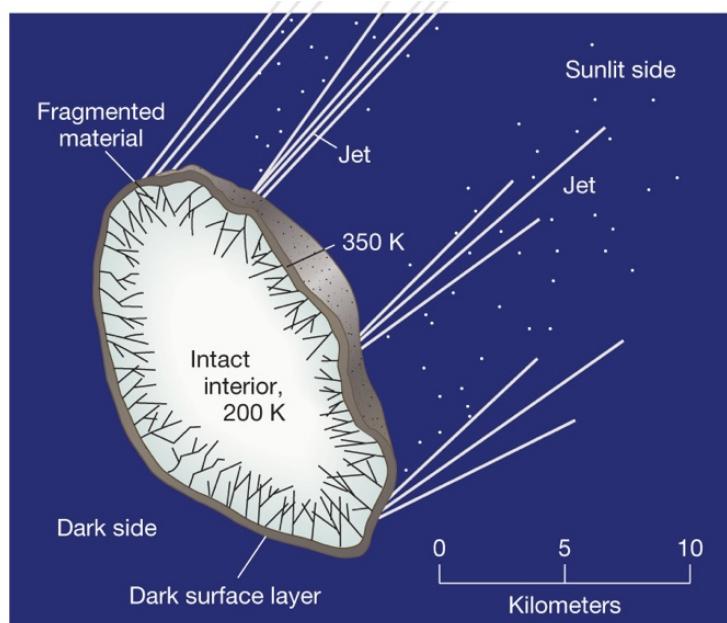
- Test 02
 - next Thursday, 5th March 2009.
 - Lectures 07 to Lecture 12 (today) inclusive
 - Topics:
 - Doppler Effect
 - Spectra; Continuous, Emission, Absorption, Blackbody
 - Atoms and Energy Levels
 - Telescopes
 - Overview of the Solar System

Inventory of the Solar System

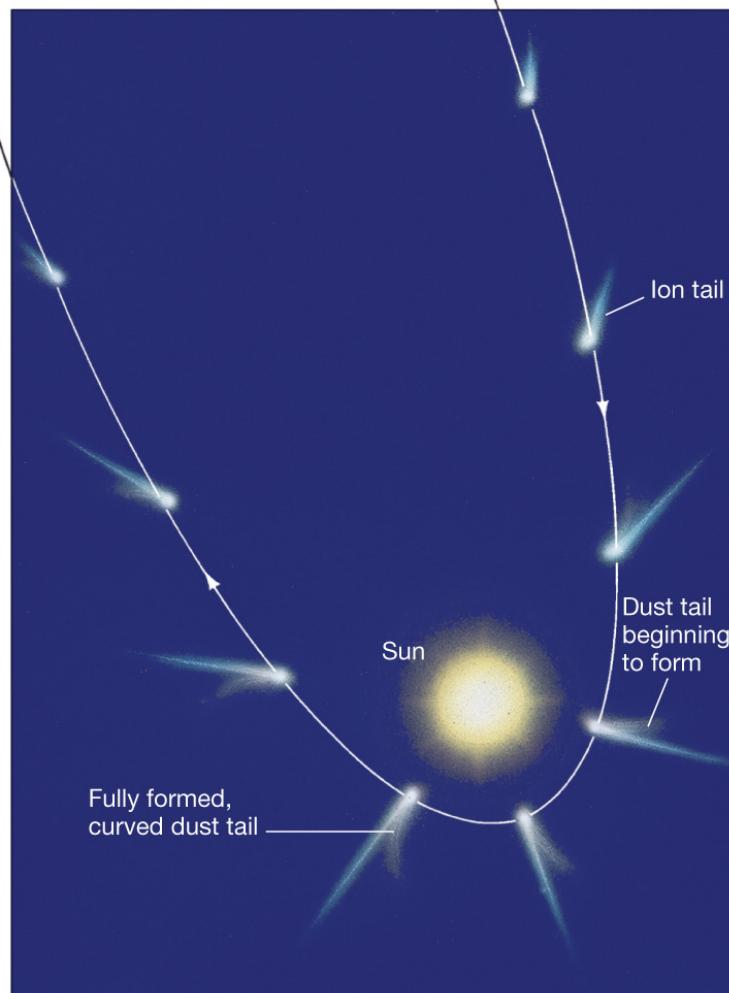
Oort Cloud and Kuiper Belt



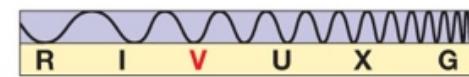
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Comets and Their Tails



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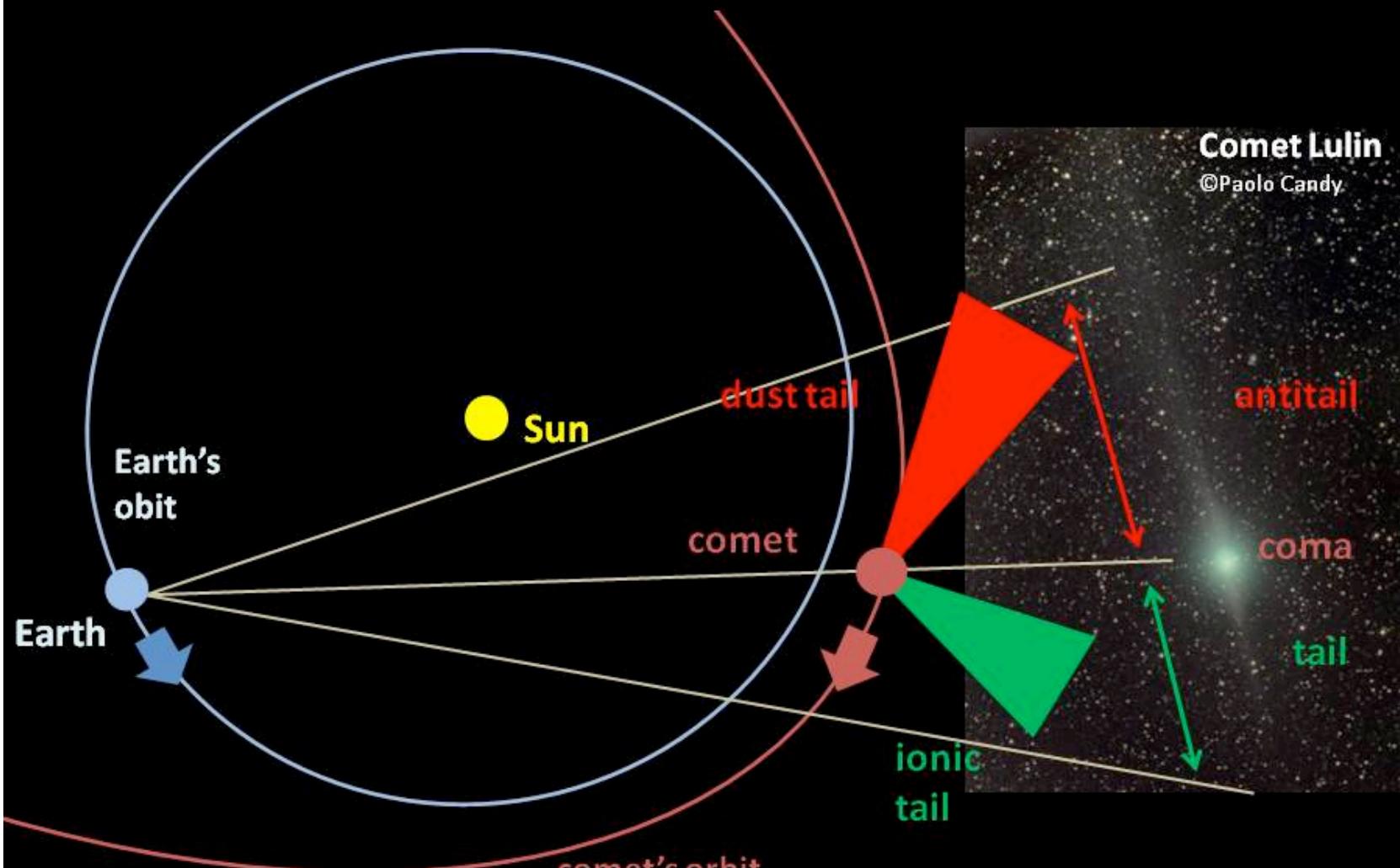
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Comet Lulin

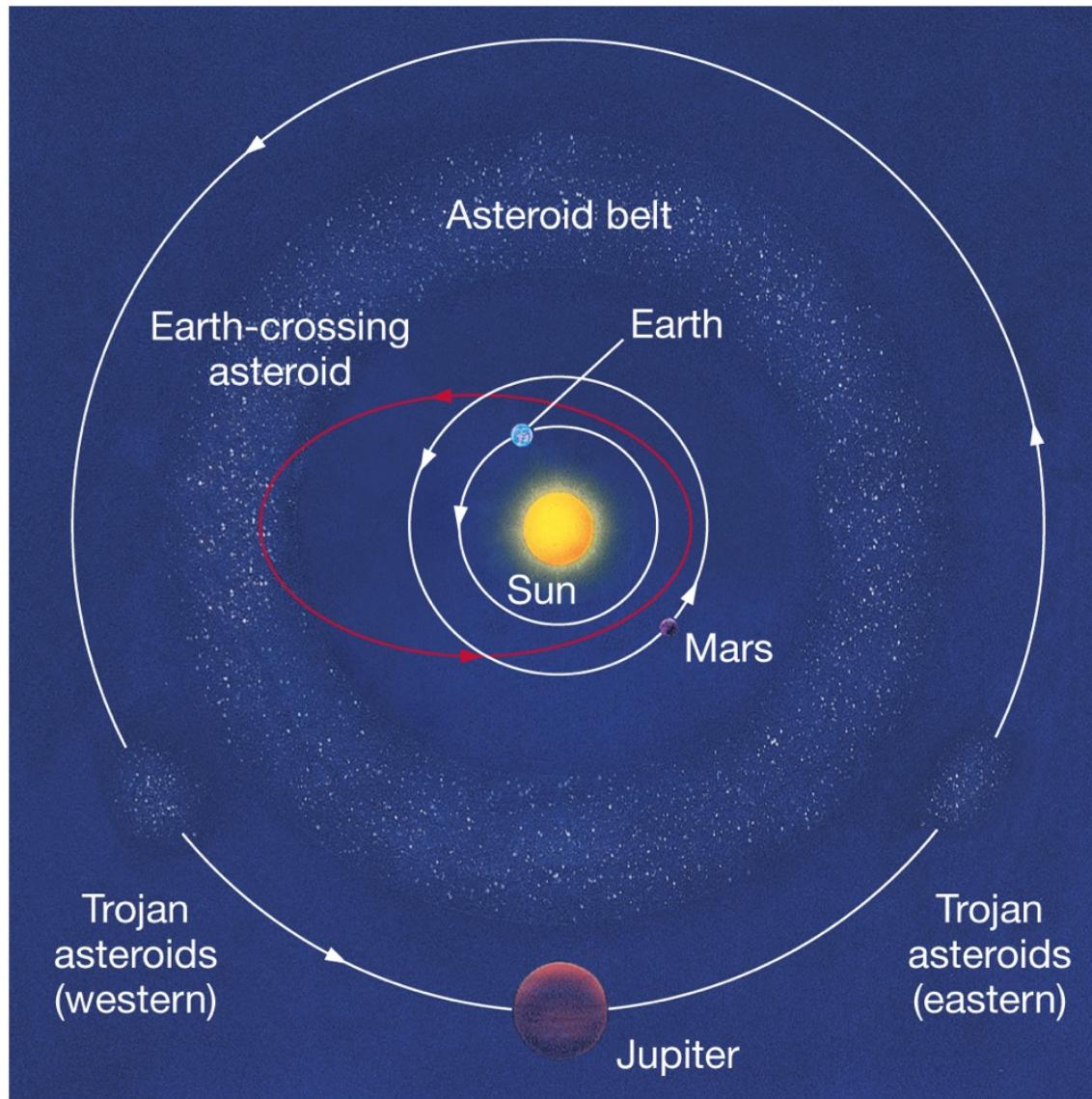


- C/2007 N3
- Non-periodic comet
- Closest approach to Earth was on Tuesday (0.4 AU)
- Lulin Observatory in Taiwan

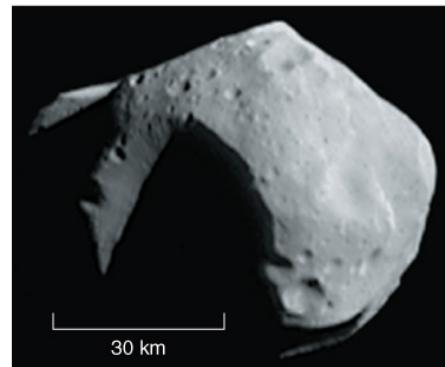
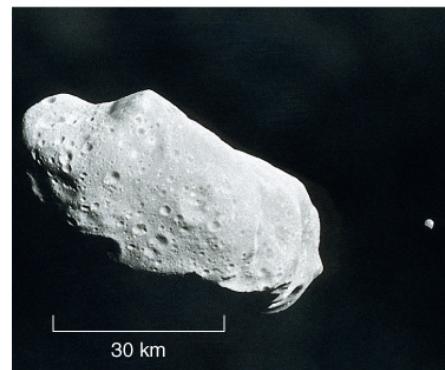
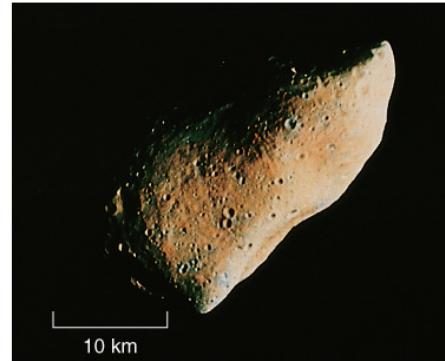
What is an antitail?



Borja Tosar
www.surftitan.net



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Impact Craters



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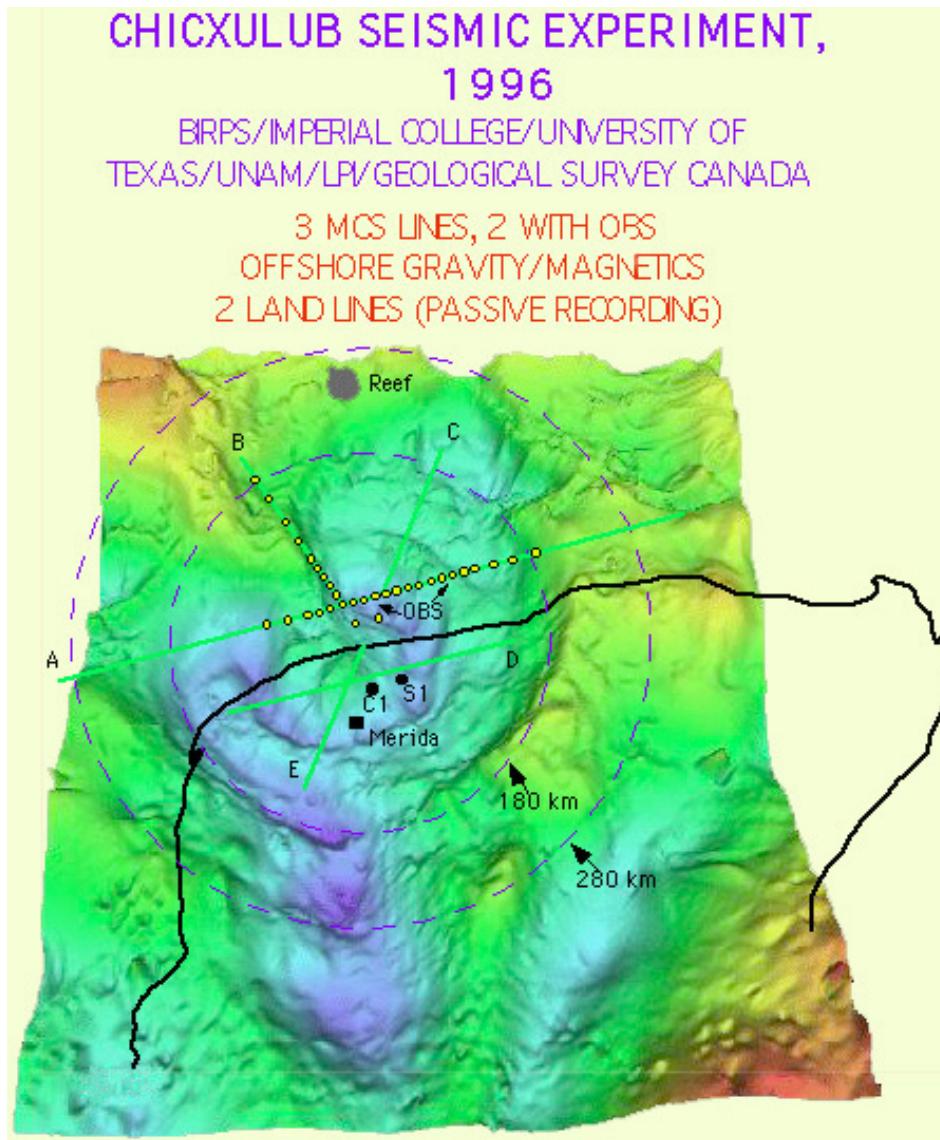


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Barringer Crater
near Winslow, Arizona

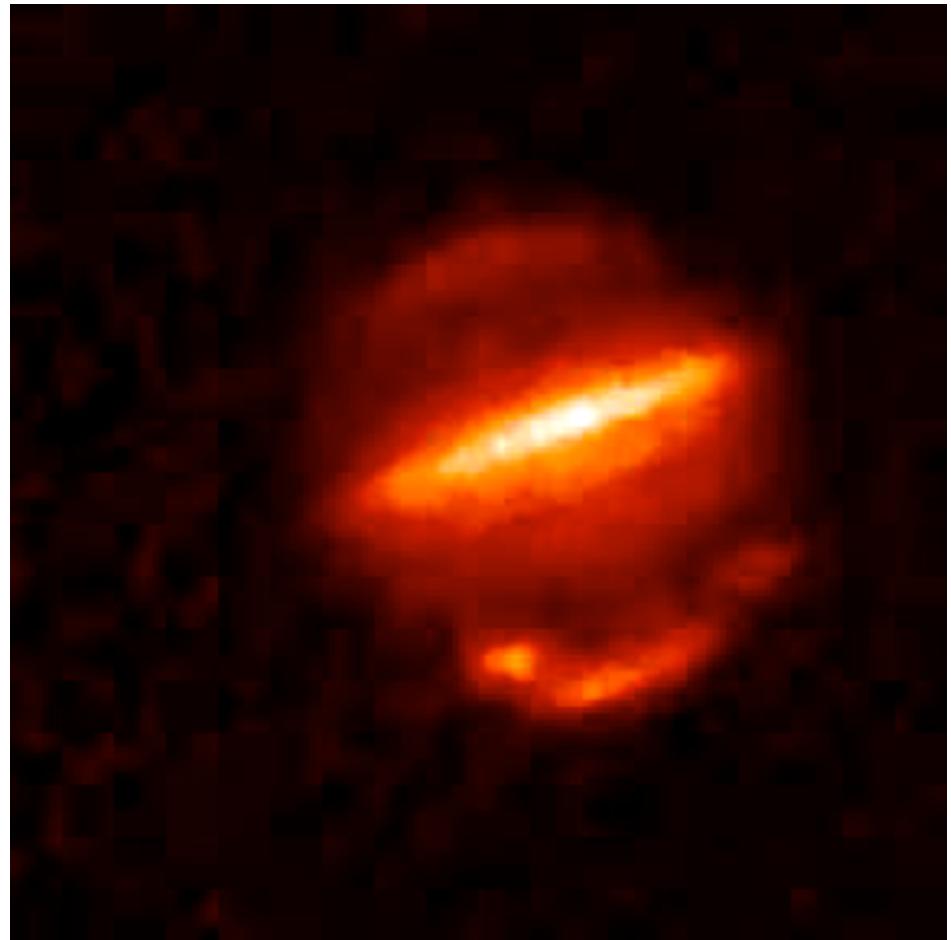
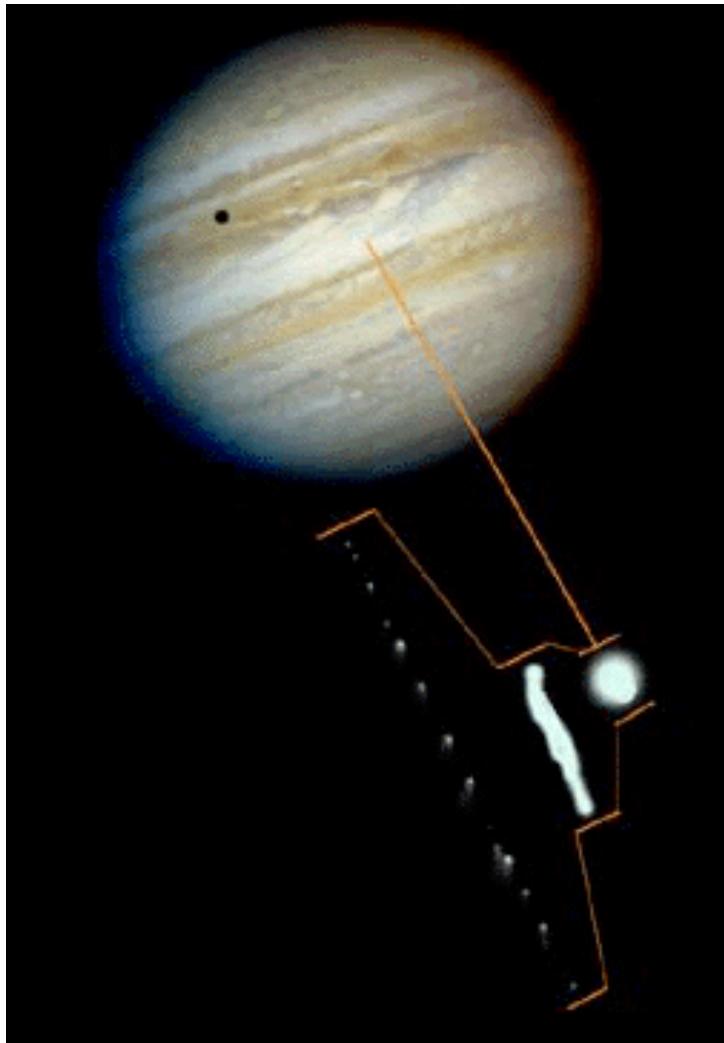
Manicouagan Reservoir
Quebec, Canada

The Extinction of the Dinosaurs



- Chicxulub Crater (Yucatán Peninsula in Mexico.)
- ~10km object
- **Possible** cause for the “K-T Boundary” about 65 million years ago

Collision of Comet Shoemaker-Levy 9 With Jupiter In 1994



Collision of Comet Shoemaker-Levy 9 With Jupiter In 1994



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BBC: Jupiter Explosion - A Comet's Tale



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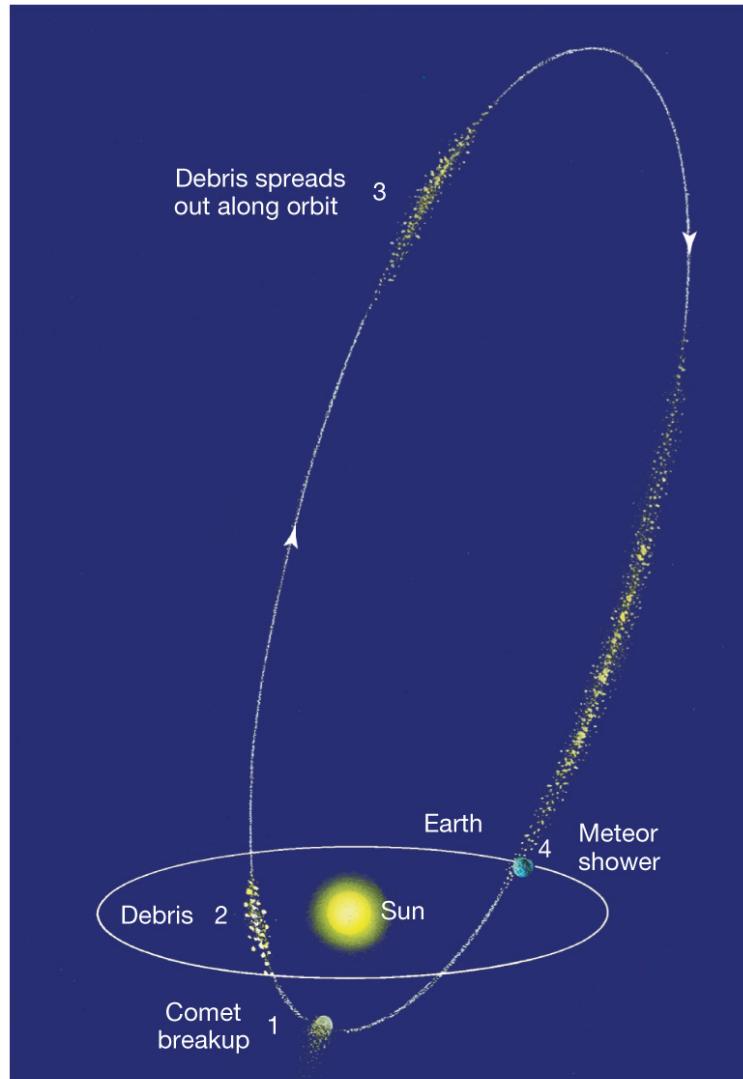
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A rare chance to see space agency footage as comet strikes Jupiter and is caught on camera. one of the biggest explosions that have ever b witnessed, scientists discuss the theoretical im

URL <http://www.youtube.com/watch?v=DgOTcf>

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Meteor Showers

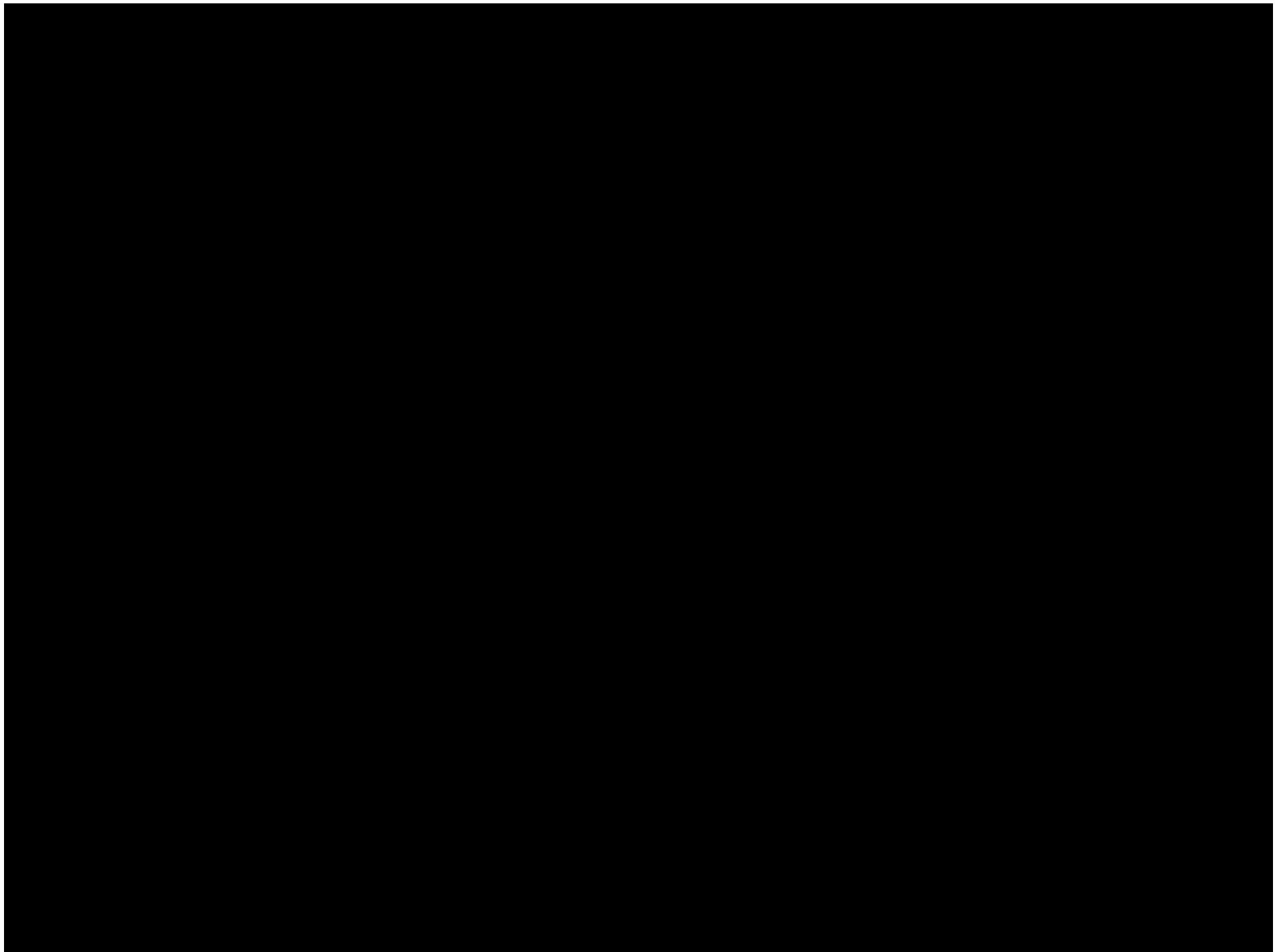


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Leonid meteor shower
Comet Tempel-Tuttle
Mid November

Perseid meteor shower
Comet Swift-Tuttle
Late June/Early August

**END OF TEST 02
MATERIAL**



Crash Course in Greek Mythology

In the beginning there were three generations of titans...

- Ouranos (Uranus) & Gaia (Earth)
- Cronus (Saturn) & Rhea
- Zeus (Jupiter) & Hera

- * Uranus & Gaia (Earth)
- * Kronos (Saturn) & Rhea
- * Zeus (Jupiter) & Hera

Titans

Poseidon (Neptune)

Athena

Iphestos (Vulcan)

Estia

Aris (Mars)

Aphrodite (Venus)

Apollon (Apollo)

Artemis

Ermis (Hermes, Mercury)

Demetra

Olympian Gods

Hades (Pluto)
(Minor God)

In Honor of the Titans...

- Uranus & Gaia (Earth)

- **Saturn**

Rhea, Hyperion, Iapetus, Tethys,
Enceladus

- Zeus (Jupiter) & Hera

- Zeus's Lovers; Europa, Io,
Ganymede, Callisto
(Moons of Jupiter)



Moons of Saturn.
The largest one is
called “Titan”

The Inner Planets Close Up

Mercury

- Named after Hermes the messenger of the gods

Venus

- The morning and evening star
- Named after Venus, the goddess of beauty

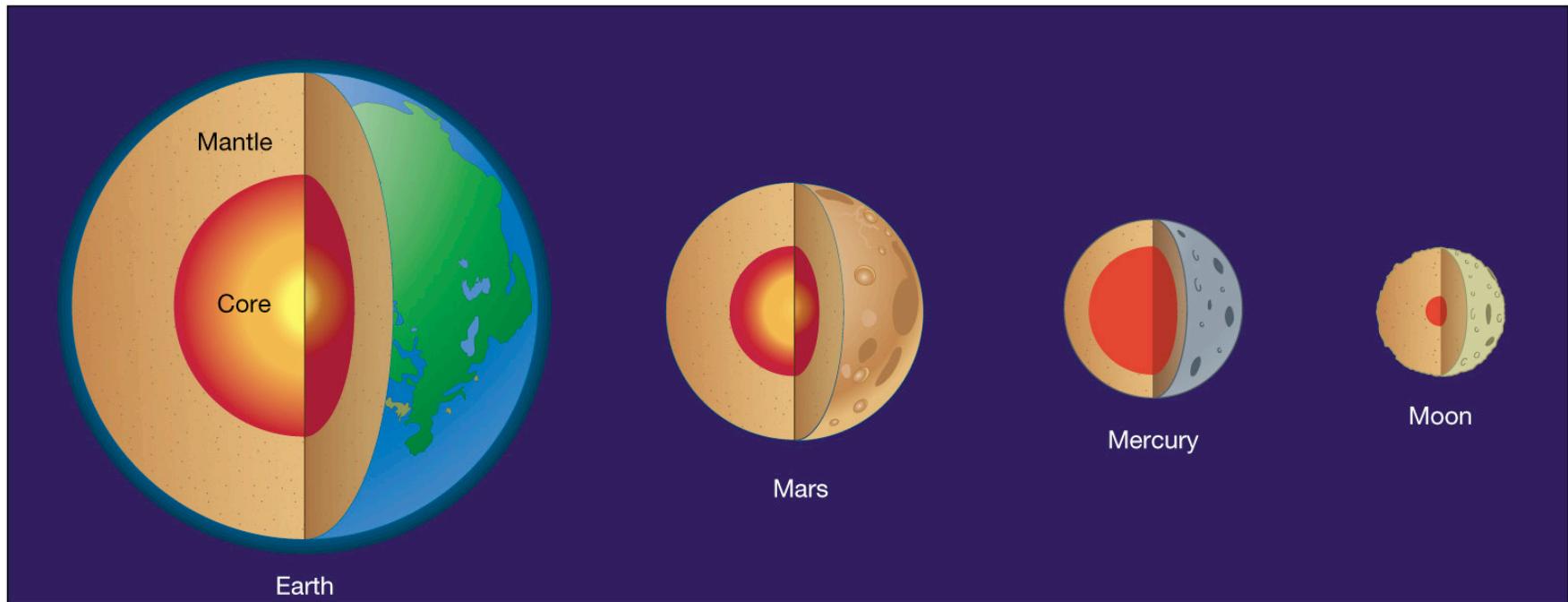
Earth

- Named after Gaia, the mother of all (titans)

Mars

- Named after Ares, the god of war
- The origin of all alien invaders...

Internal Structure



Rotation

