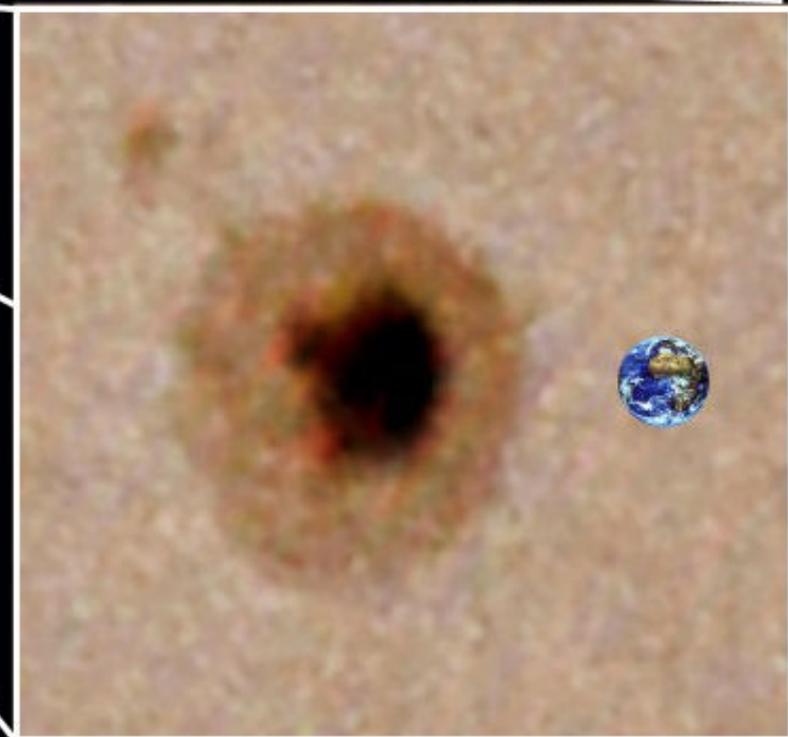
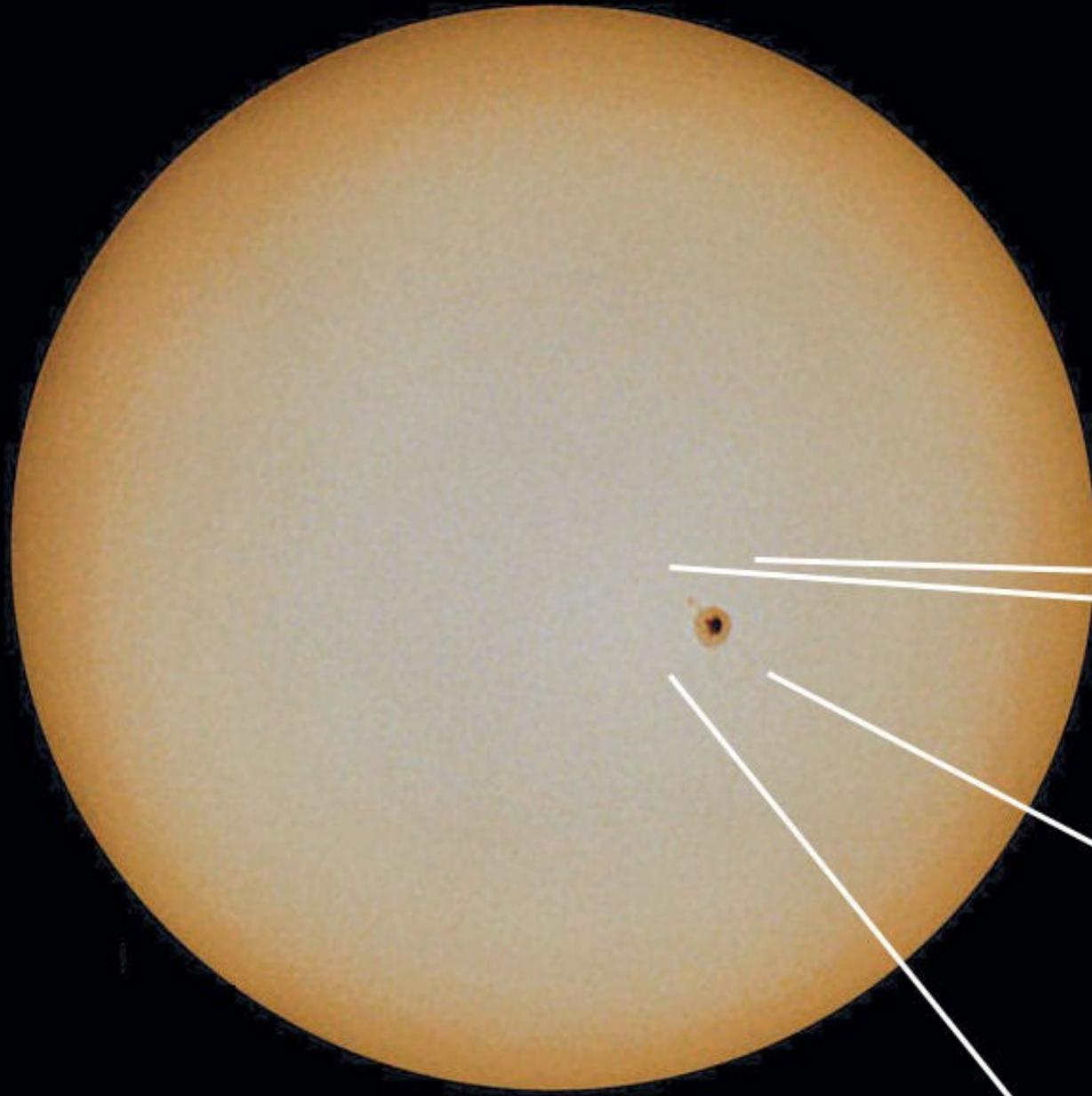


la Luna è l'unico satellite naturale della Terra



**il suo diametro
è pari a $1/4$ della
Terra**

il Sole è una stella e trasforma la materia (idrogeno) in energia



**le sue dimensioni sono enormi
se confrontate alla Terra (oltre 100 volte)**

la Luna dista mediamente 400.000 km dalla Terra
la luce ci impiega 1,3 secondi ad arrivare a noi

A large, orange-red full moon is the central focus, set against a dark, clear sky. Below the moon, a two-lane asphalt road stretches into the distance, flanked by flat, grassy fields. The overall scene is a surreal comparison of scale between the moon and a terrestrial road.

400.000 km
a 130 km/h
4 mesi di viaggio

il Sole dista mediamente 150.000.000 km dalla Terra
la luce ci impiega 8 minuti ad arrivare a noi

150.000.000 km

a 130 km/h

130 anni di viaggio

UNIVERSO IN SCALA 1/10 miliardi



1.400.000 km

=



14 cm

UNIVERSO IN SCALA 1/10 miliardi



Terra 12.700 km

=



1,3 mm

UNIVERSO IN SCALA 1/10 MILIARDI



1,3 mm



20 passi



14 cm

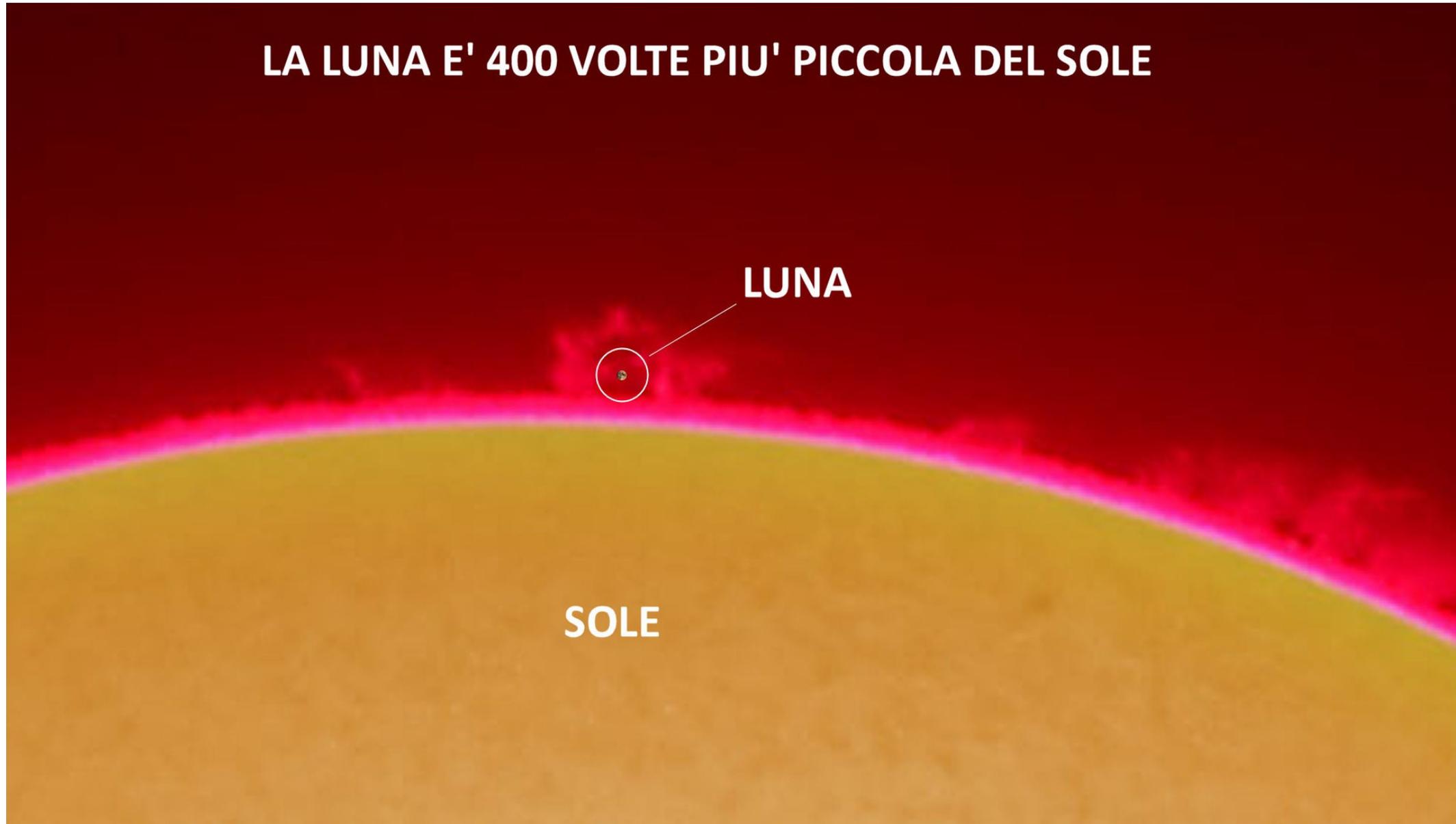
—→
distanza 15 m

LA LUNA E' 400 VOLTE PIU' PICCOLA DEL SOLE

LUNA



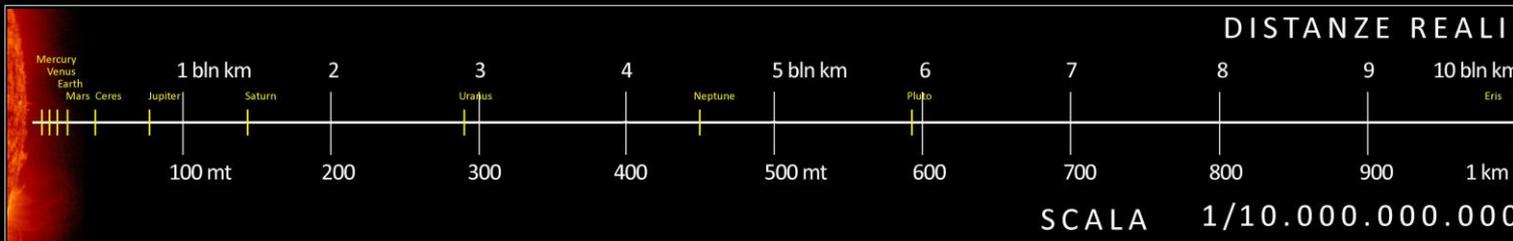
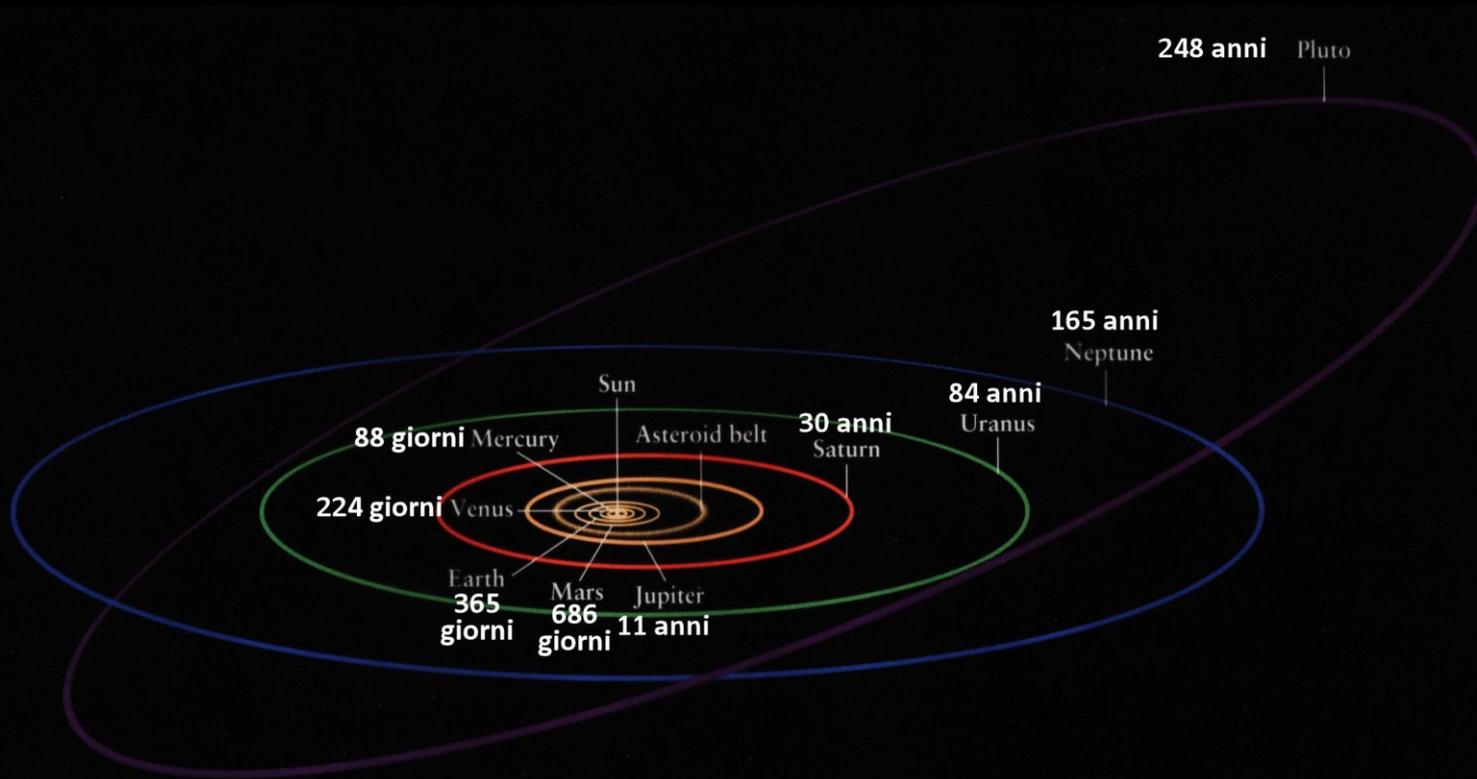
SOLE



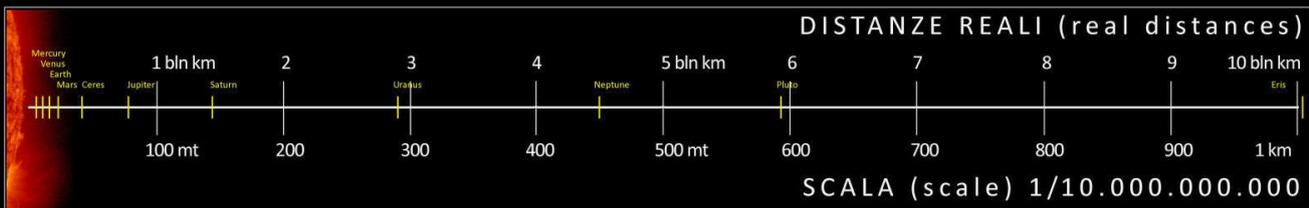
MA E' ANCHE 400 VOLTE PIU' VICINA



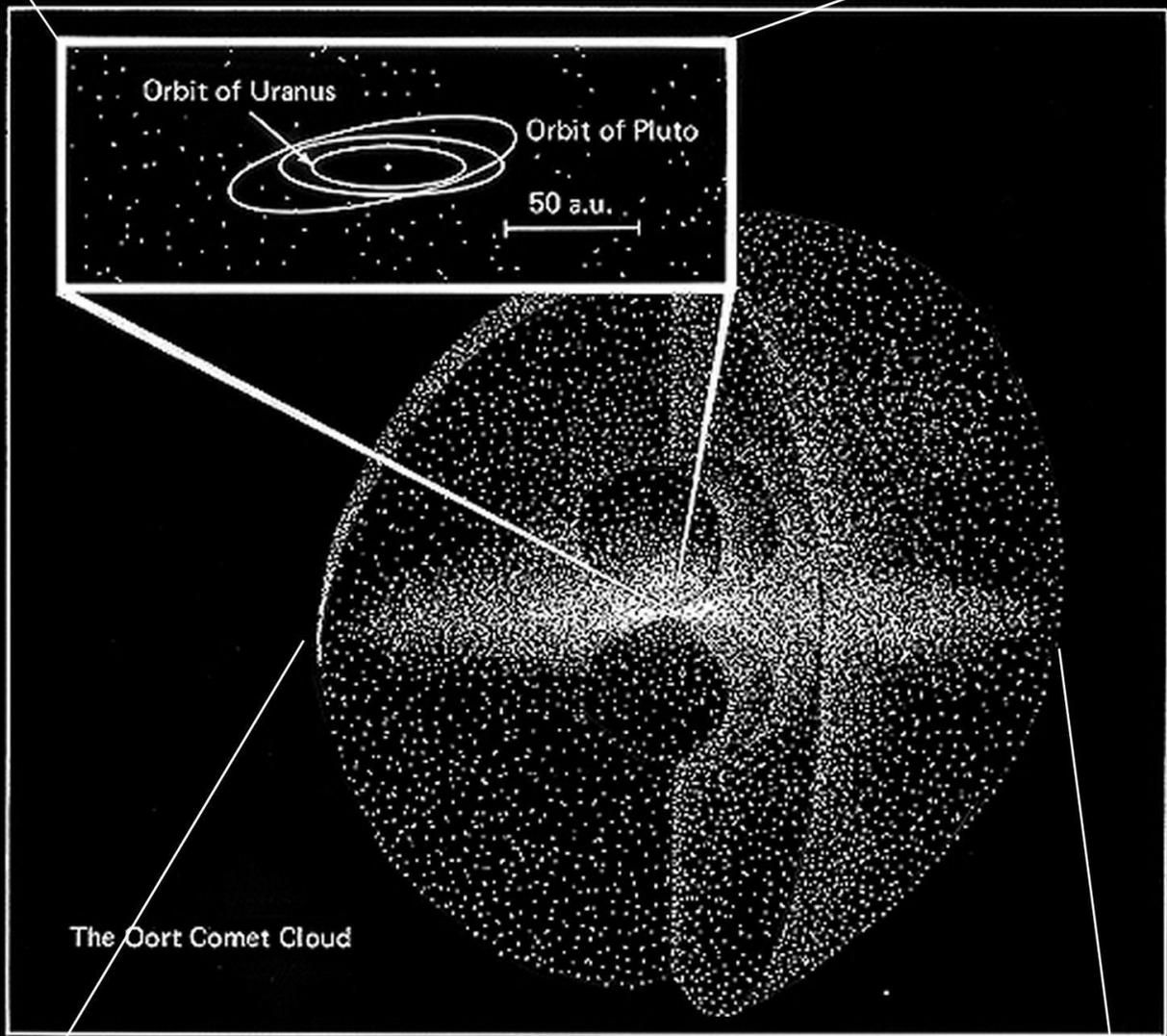
IN CIELO HANNO LE STESSA DIMENSIONI ANGOLARI



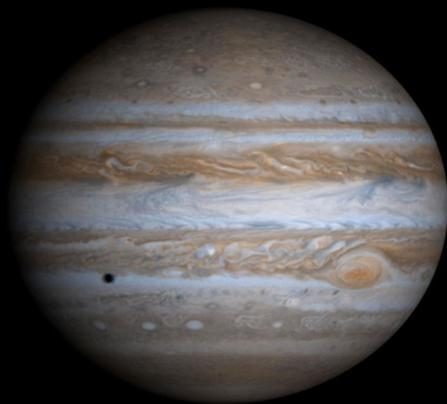
Periodi orbitali e distanze dei pianeti



10 mld km = 1 km universo in scala 1/10 mld



0,4 a.l. = 400 km universo in scala 1/10 mld



Giove

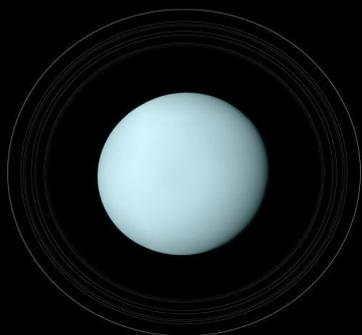


Titano

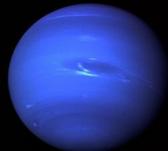


Saturno

PIANETI GIGANTI GASSOSI



Urano



Nettuno

PIANETI GASSOSI



Terra

Luna



Venere

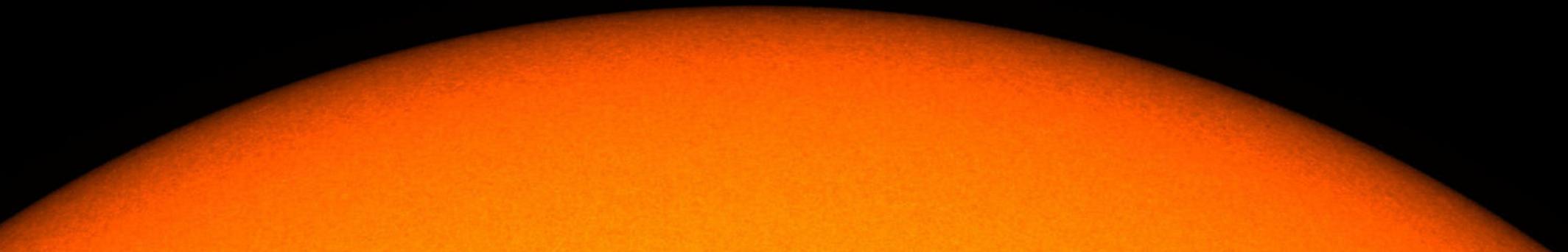


Marte

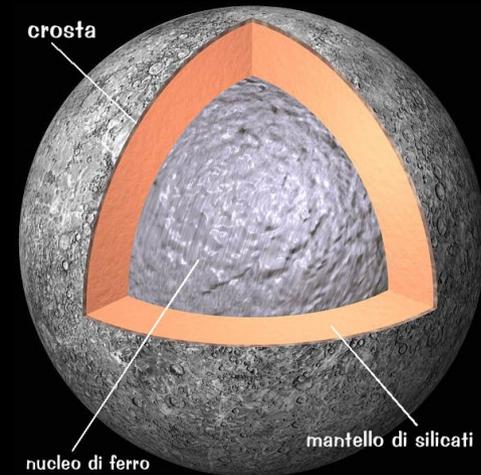


Mercurio

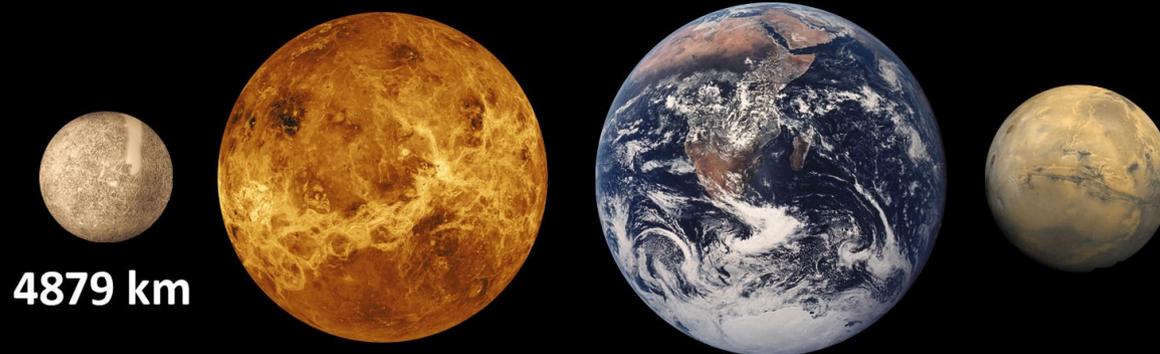
PIANETI ROCCIOSI



MERCURIO



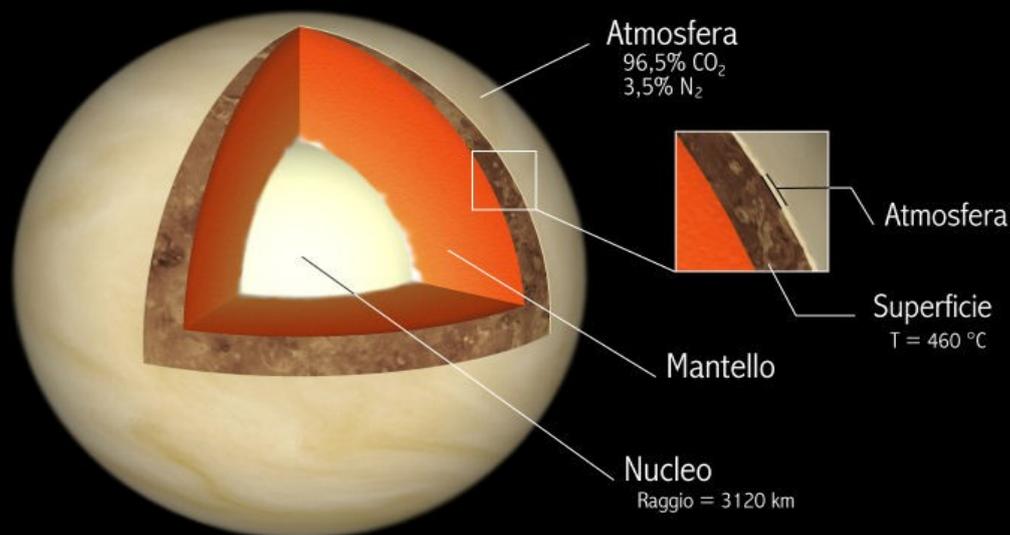
il pianeta più piccolo



VENERE

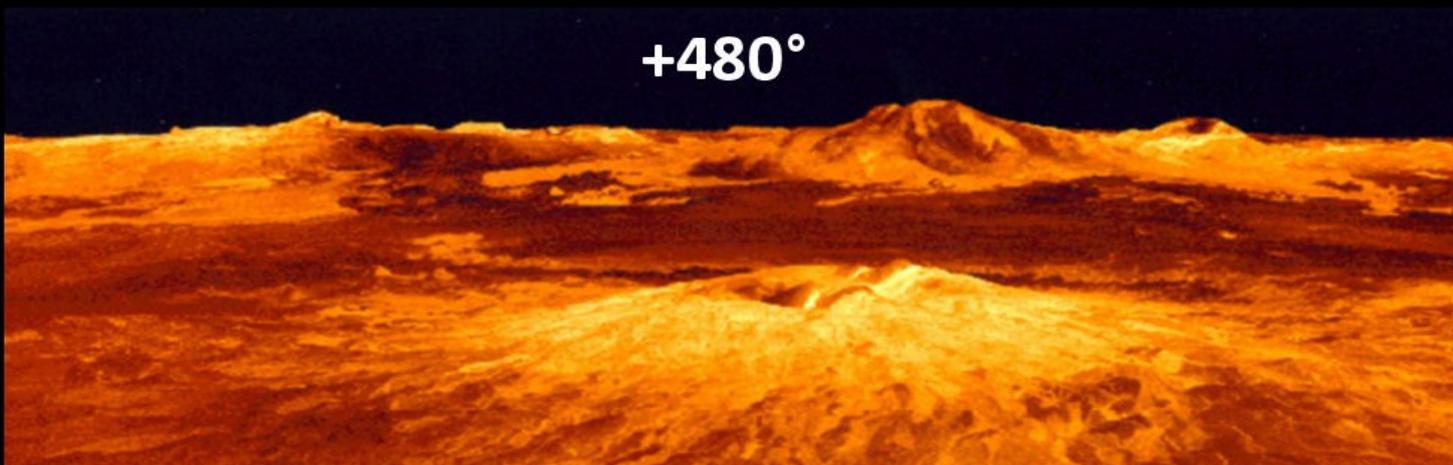


Struttura interna di Venere

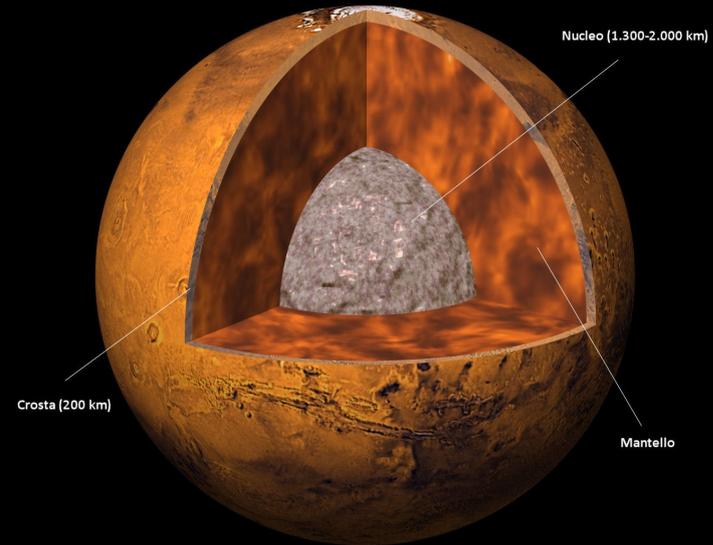
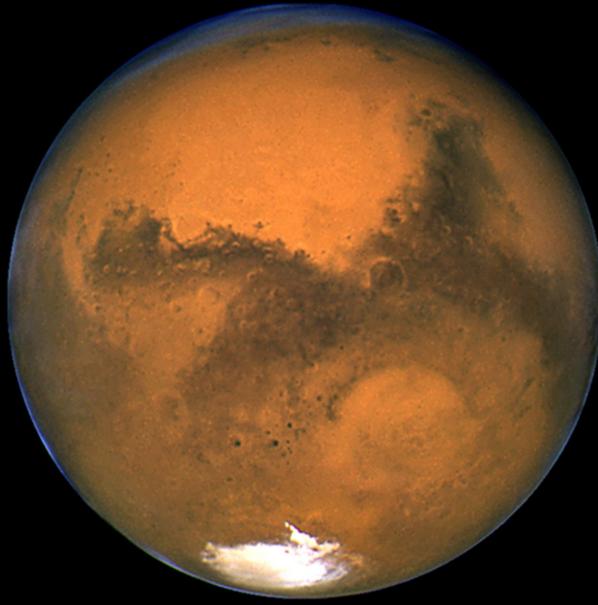


il pianeta più caldo

+480°



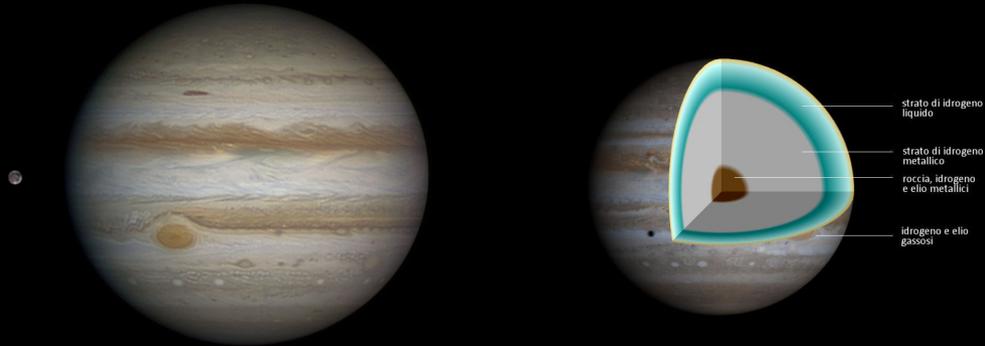
MARTE



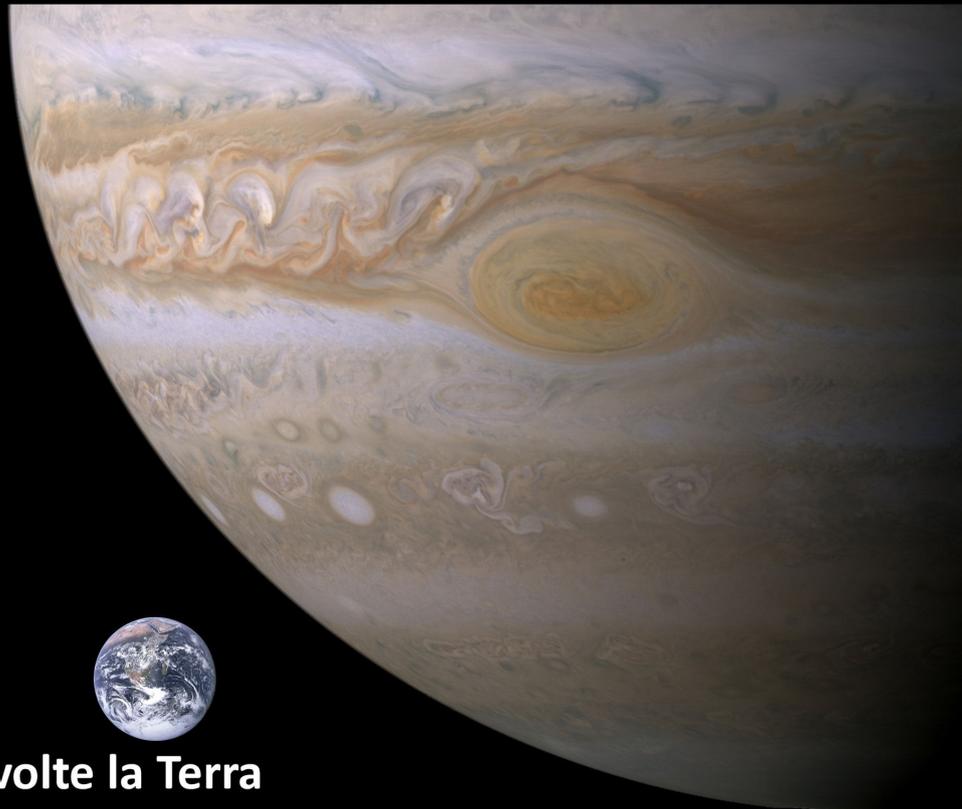
il più simile alla Terra



GIOVE

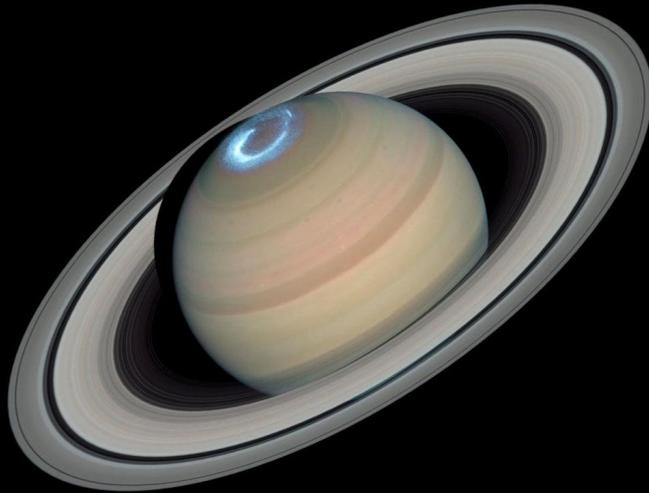


il pianeta più grande

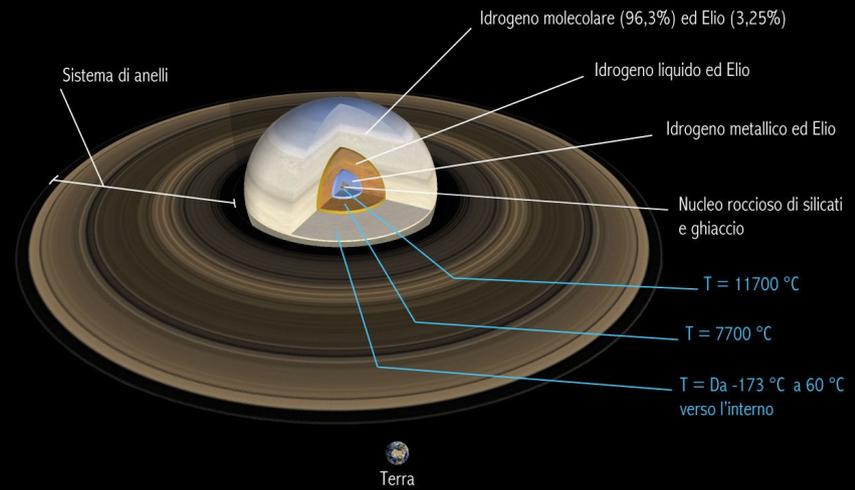


12 volte la Terra

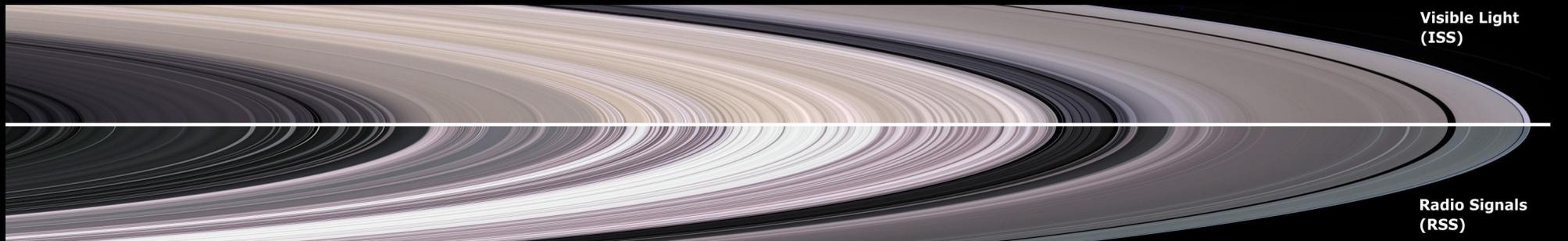
SATURNO



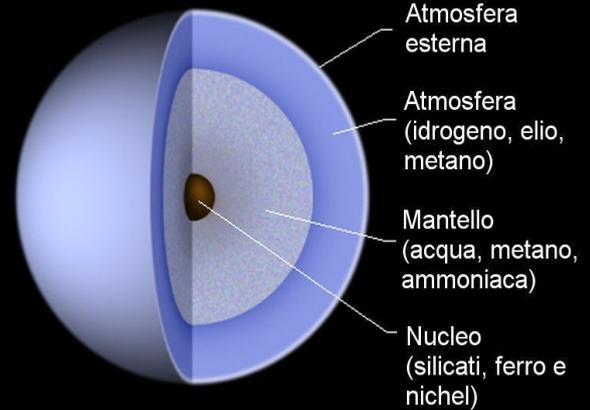
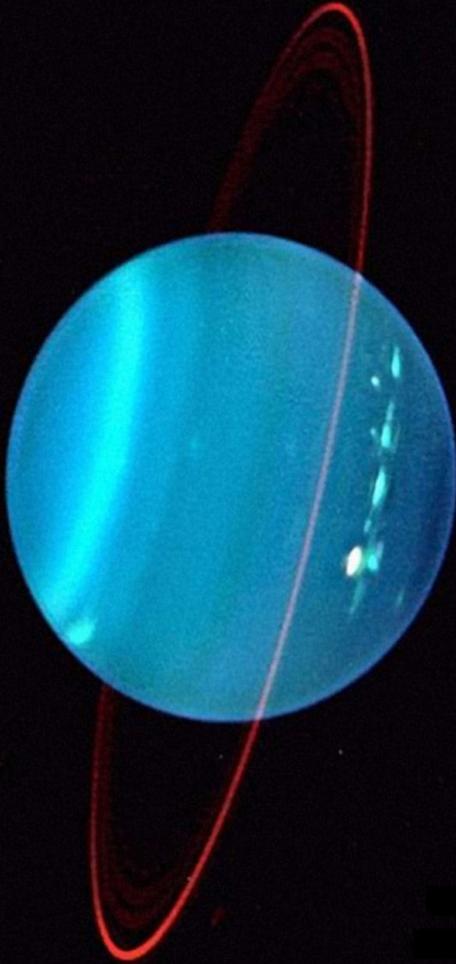
Struttura interna di Saturno



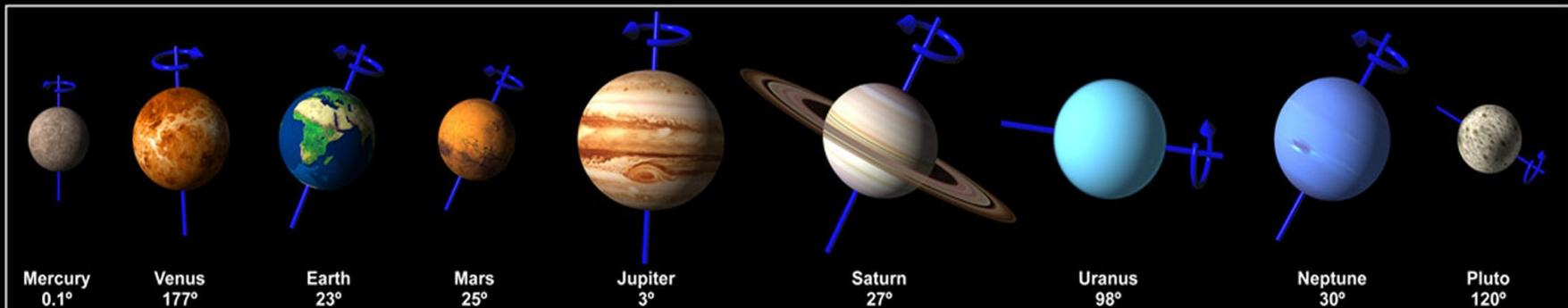
il pianeta piú bello



URANO

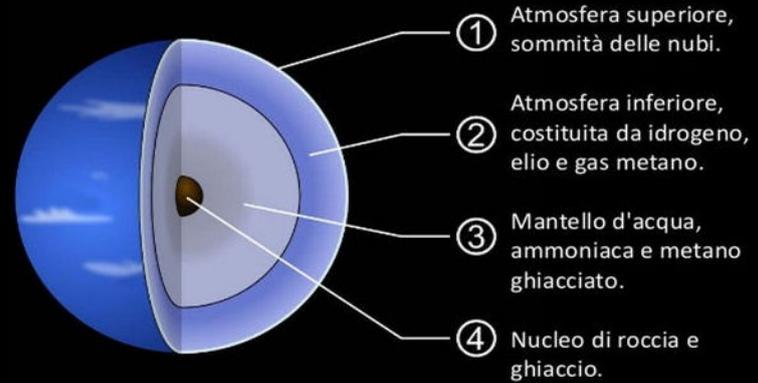
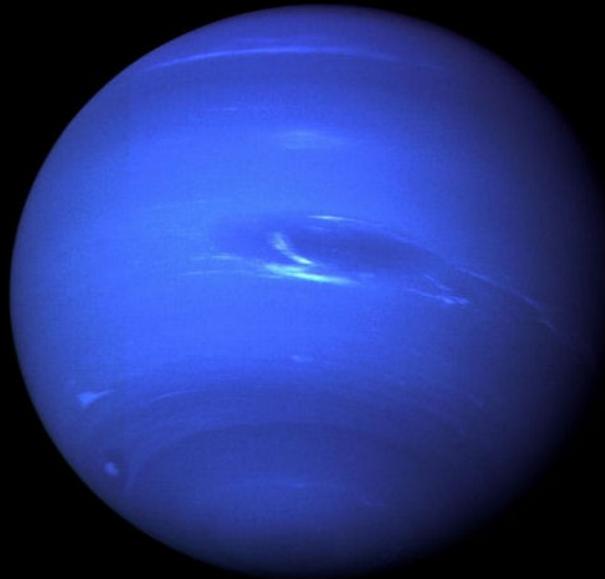


il pianeta più strano
rotola sulla sua orbita



Obliquity of the Nine Planets

NETTUNO



i venti più impetuosi
2.200 km/h



PIANETI NANI



Cerere



Plutone

Caronte



Makemake



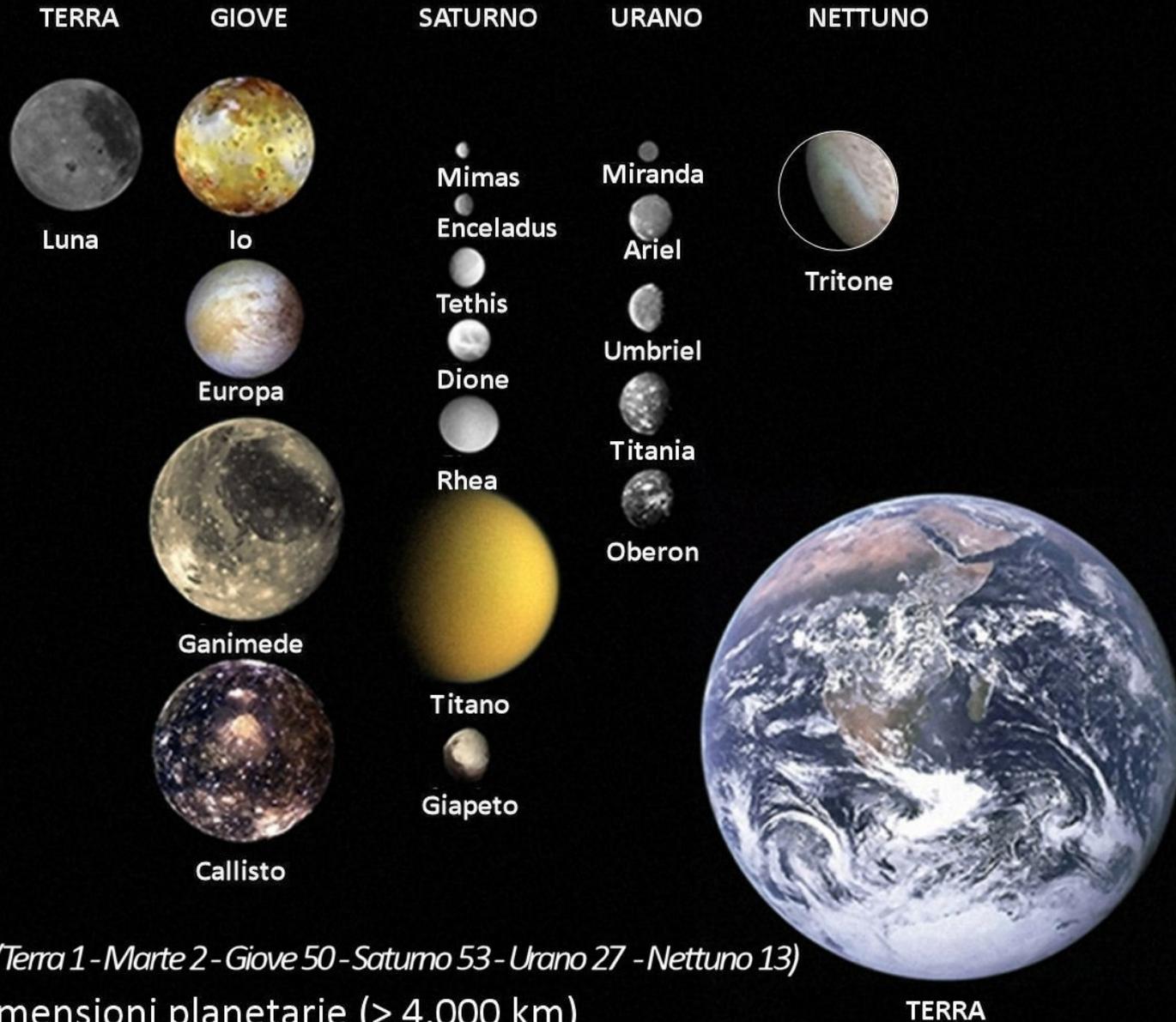
Haumea



Eris



SATELLITI MAGGIORI



quasi 150 lune (*Terra 1 - Marte 2 - Giove 50 - Saturno 53 - Urano 27 - Nettuno 13*)

3 corpi di dimensioni planetarie (> 4.000 km)

12 corpi di dimensioni sub-planetaria (4.000 ÷ 1.000 km)

3 corpi di dimensioni big-asteroidale (< 1.000 km)



ASTEROIDI MAGGIORI



2 Pallas



4 Vesta



10 Hygiea



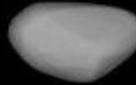
704 Interamnia



52 Europa



511 Davida



87 Sylvia

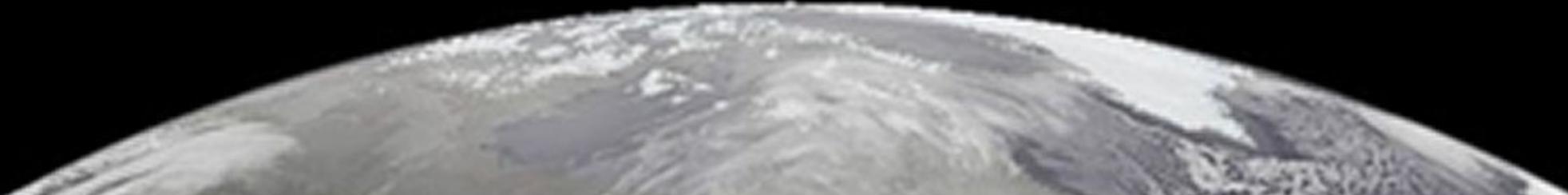


624 Hektor



31 Euphrosyne

1000 km



asteroide Cortina

scoperto al Col Drusciè nel 2000

28/01/2000



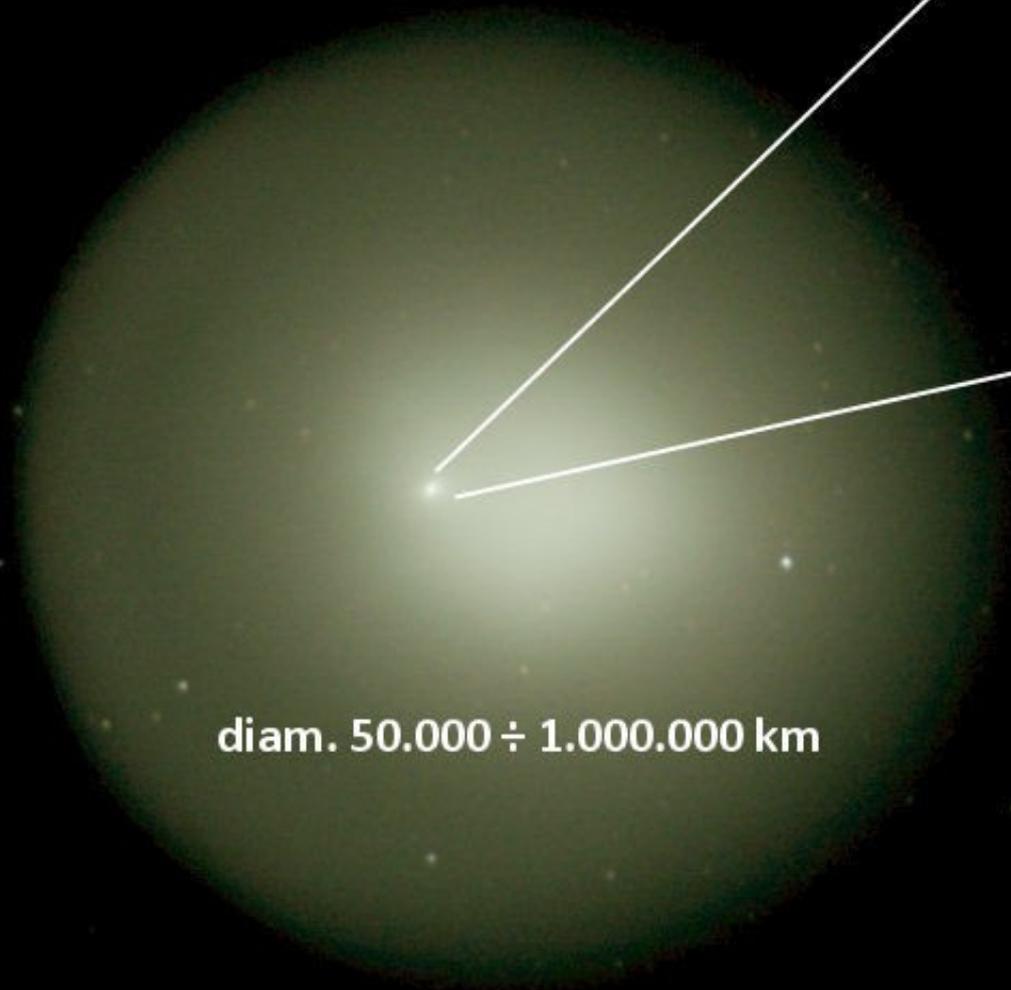
diametro ~ 5 km



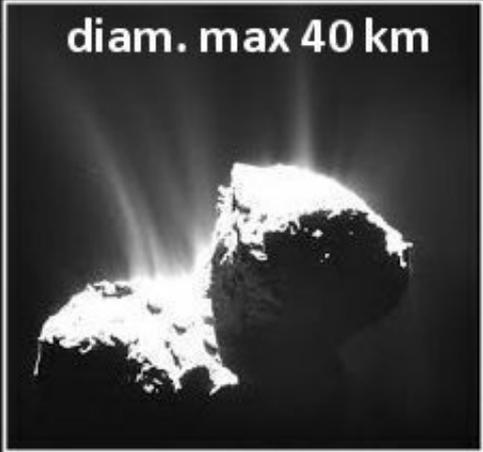
27/01/2000



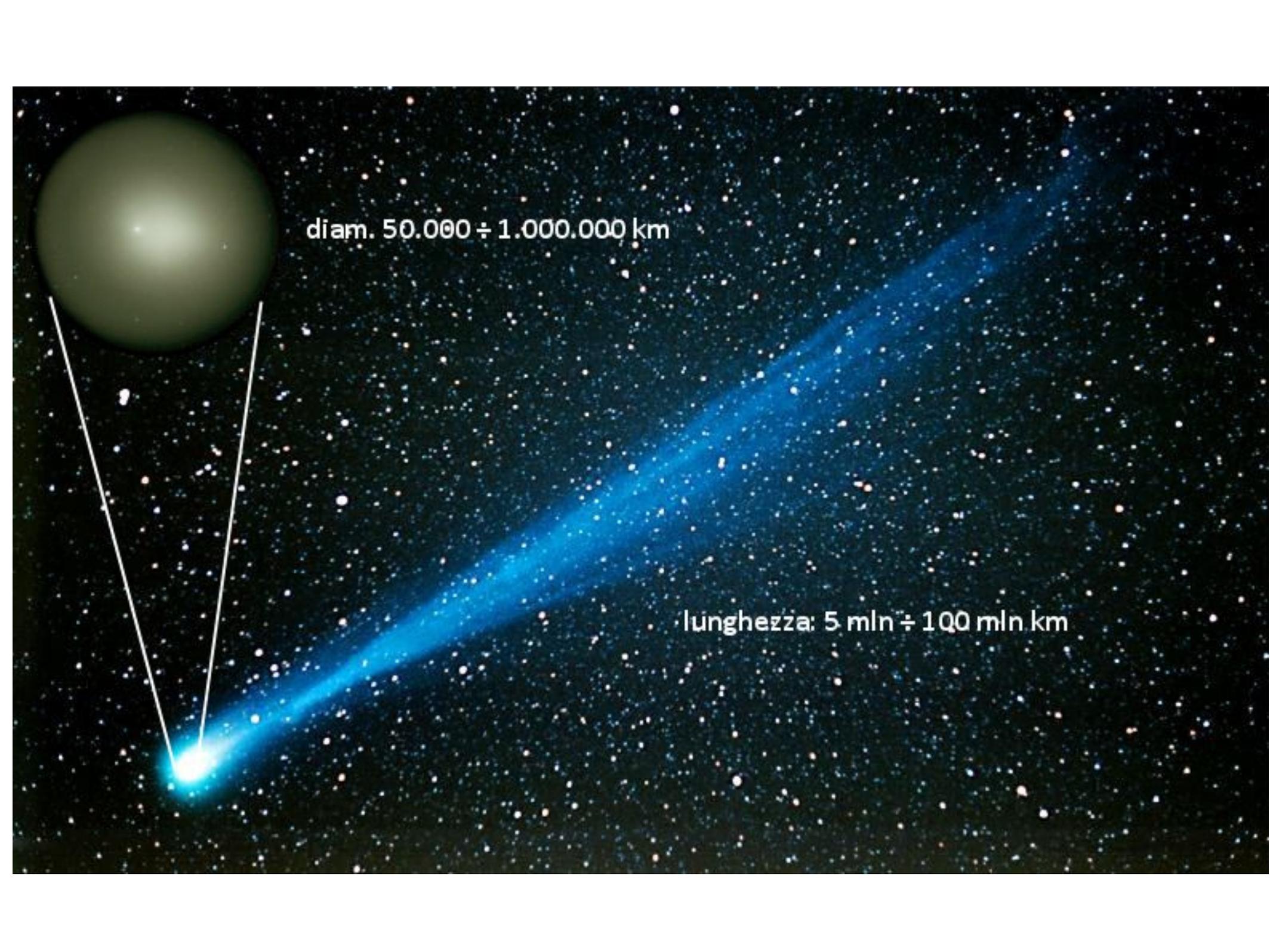
NGC 4394



diam. 50.000 ÷ 1.000.000 km



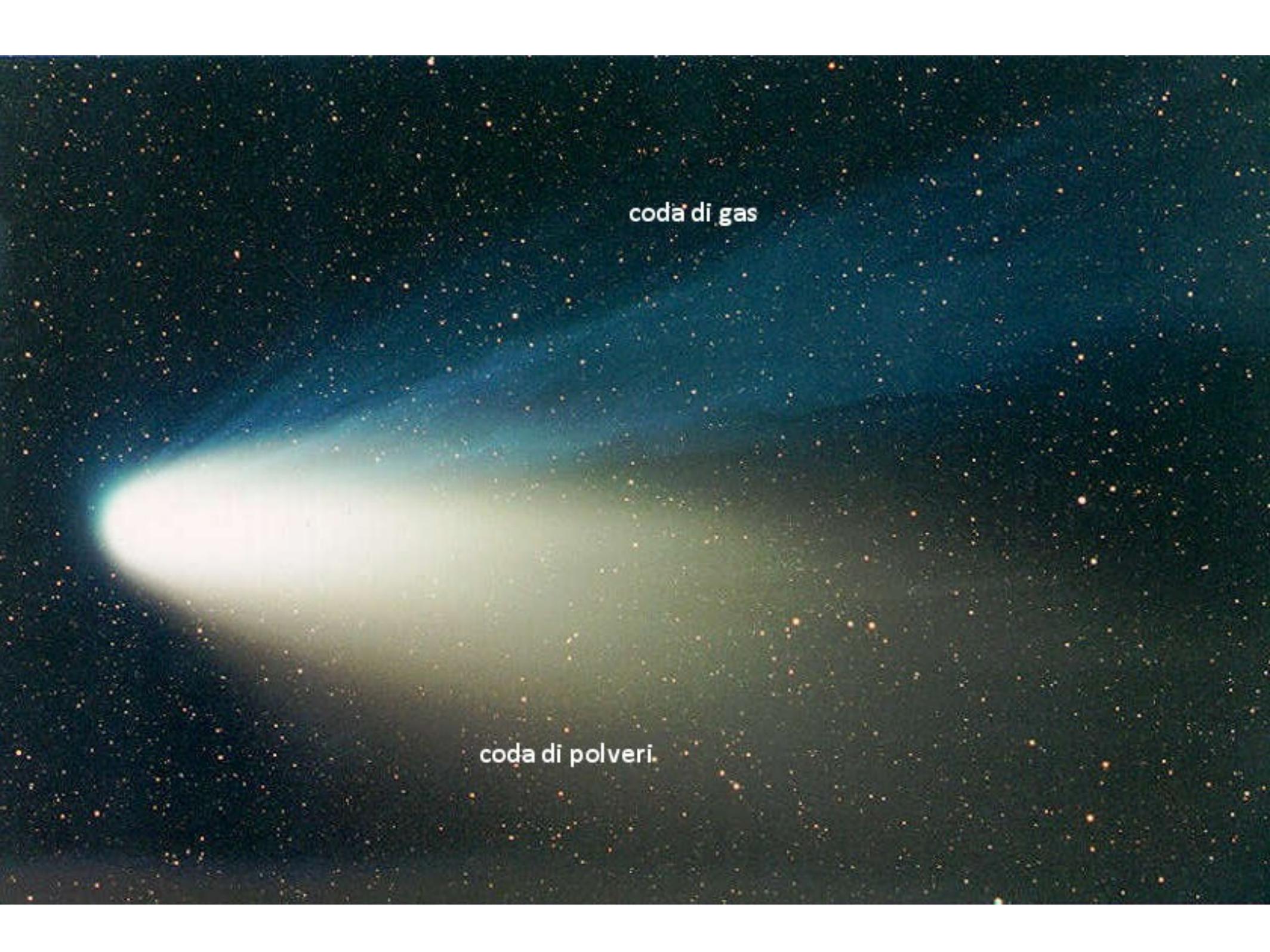
diam. max 40 km



The diagram shows a comet against a starry background. A bright, glowing nucleus is at the bottom left. Two white lines extend from the nucleus to a large, dark, spherical object in the top left corner. A long, blue, tapered tail extends from the nucleus towards the top right corner. Text labels provide dimensions for the nucleus and the tail.

diam. 50.000 ÷ 1.000.000 km

lunghezza: 5 mln ÷ 100 mln km

A photograph of a comet in space. The comet's nucleus is a bright, glowing white-yellow sphere on the left. A long, diffuse tail extends to the right, showing a color gradient from yellow-green to blue. The background is a dark field of numerous small, distant stars.

coda di gas

coda di polveri

orbite cometarie

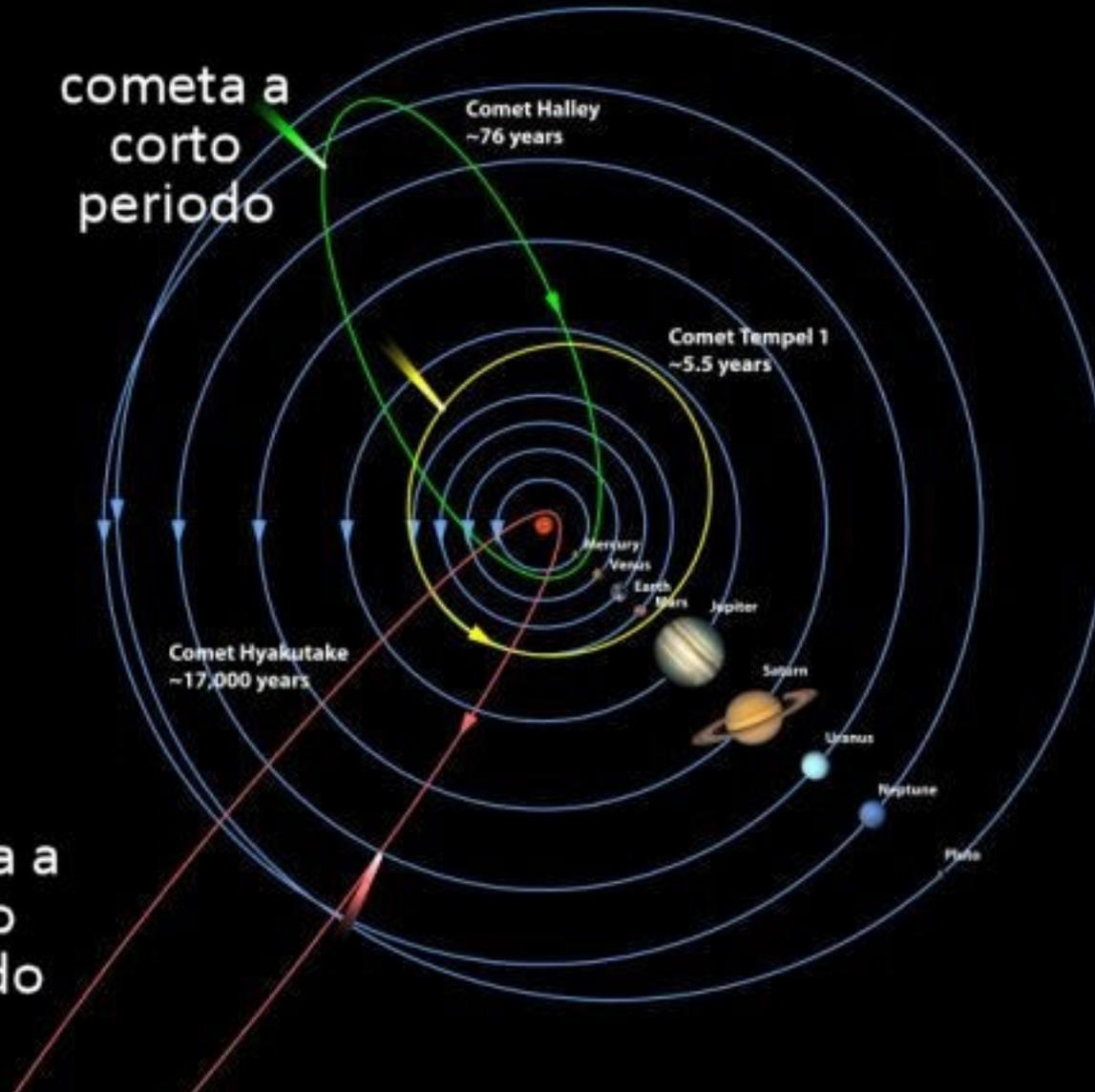
cometa a
corto
periodo

Comet Halley
~76 years

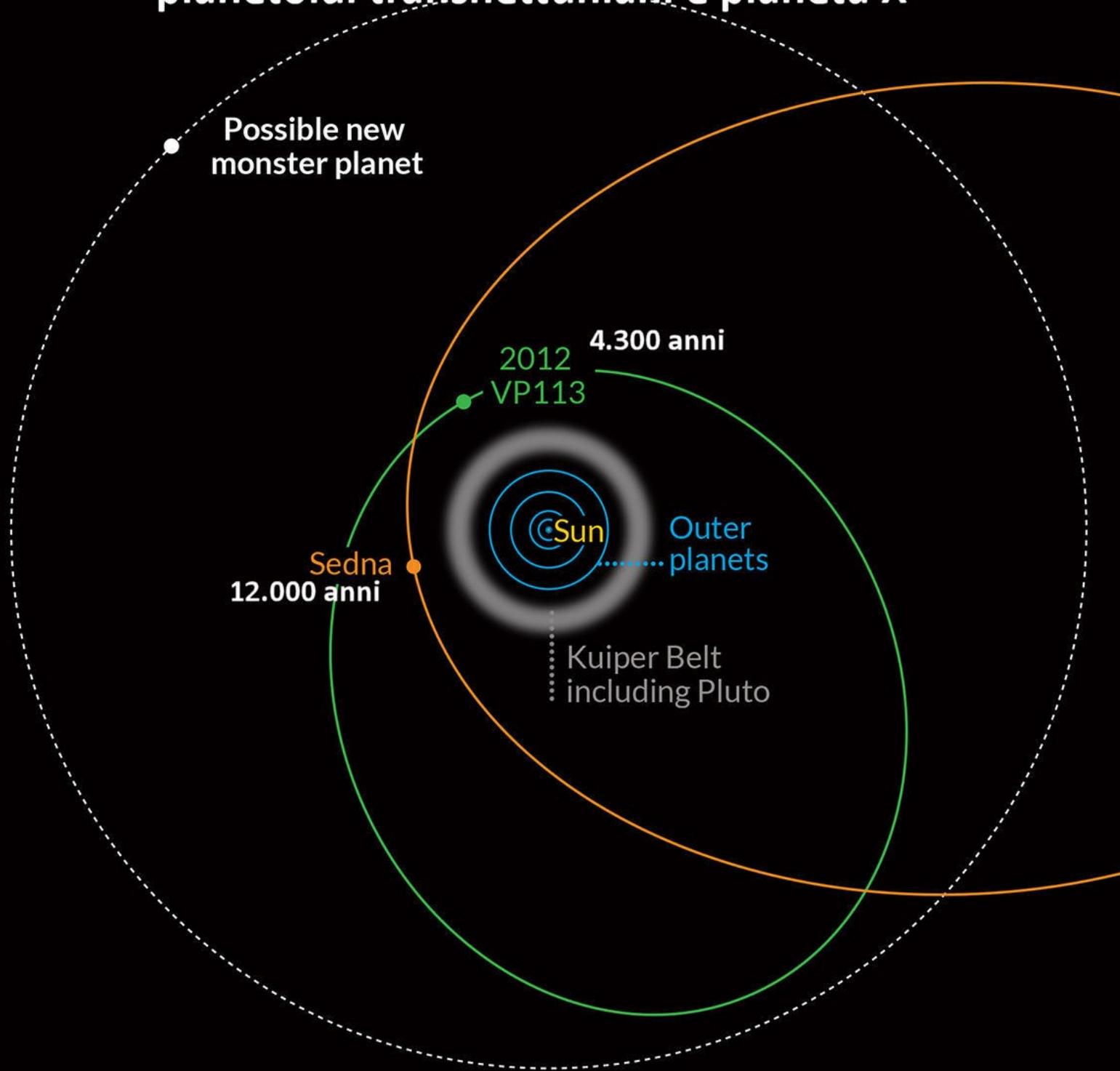
Comet Tempel 1
~5.5 years

Comet Hyakutake
~17,000 years

cometa a
lungo
periodo



planetoidi transnettuniani e pianeta X

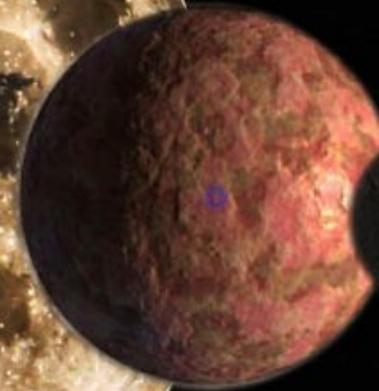


dimensione dei planetoidi transnettuniani

Luna (3.476 km)



Sedna (~ 1.400 km)



2012VP113
(~ 500 km)



LA TERRA NON E' L'UNICO LUOGO NEL SISTEMA SOLARE ADATTO ALLA NASCITA DELLA VITA



tenue atmosfera
molta acqua ghiacciata
temperature sopportabili
ciclo stagionale
ciclo giorno/notte

microorganismi
alghe-licheni

densa atmosfera
ciclo del metano
mari-laghi-fiumi
precipitazioni

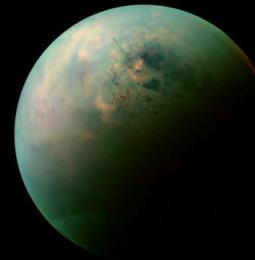
microorganismi
anaerobici

consistenti riserve di acqua liquida
sotto la superficie ghiacciata

microorganismi mono e pluri cellulari
possibili forme di vita più complesse



MARTE



TITANO



EUROPA



TRITONE



ENCELADO

FINE