

AGA0100

3.8 Luas e anéis

Principais Luas do Sistema Solar

Terra



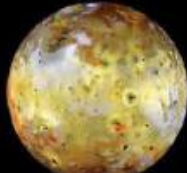
Lua

Marte

Fobos

Deimos

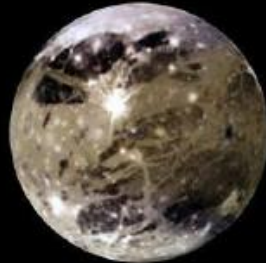
Júpiter



Io



Europa



Ganímedes



Calisto

Saturno

Mimas

Encélado

Tétis

Dione

Reia



Titã

Hipérion

Jápeto

Febe

Urano

Miranda

Ariel

Umbriel

Titânia

Oberon

Neptuno

Proteu

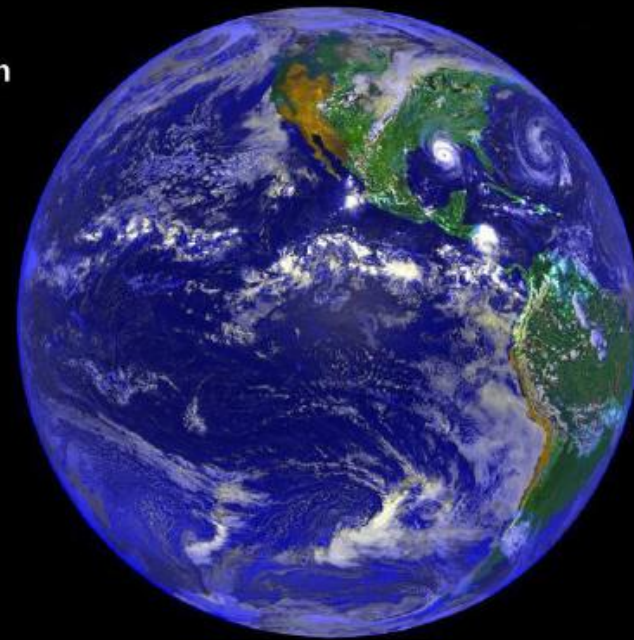


Tritão

Nereida

Plutão

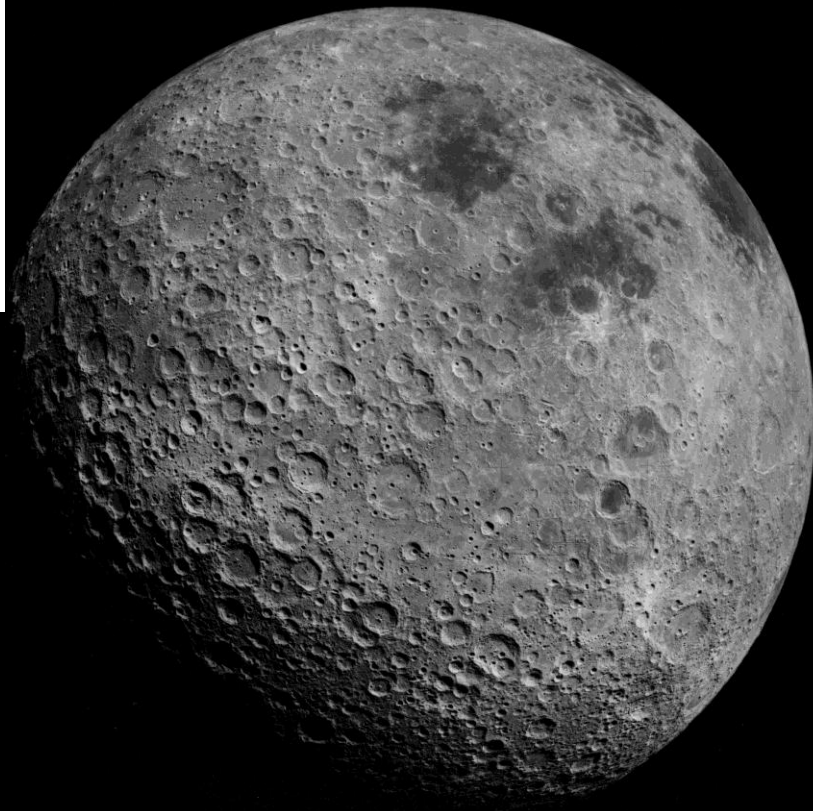
Caronte



Terra

A Lua

satélite da Terra



Luas de Marte

NASA: Mars Reconnaissance Orbiter

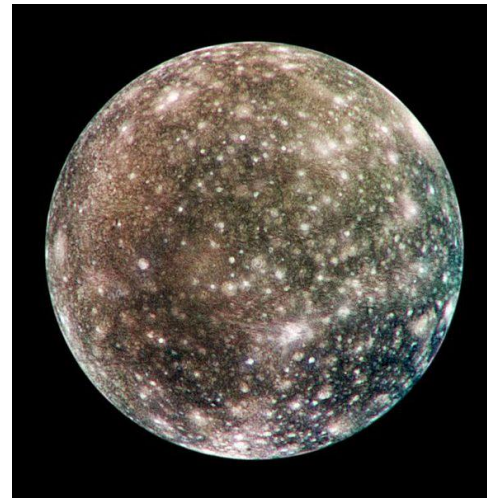
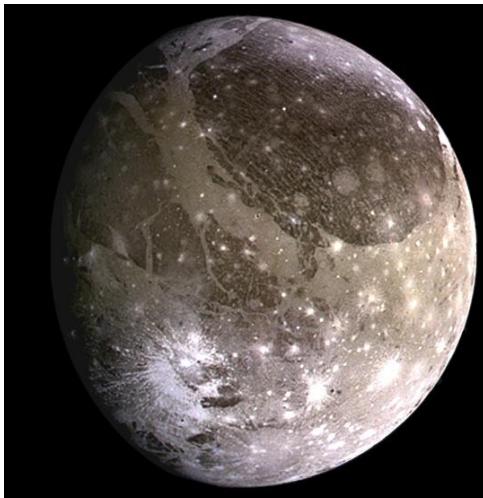
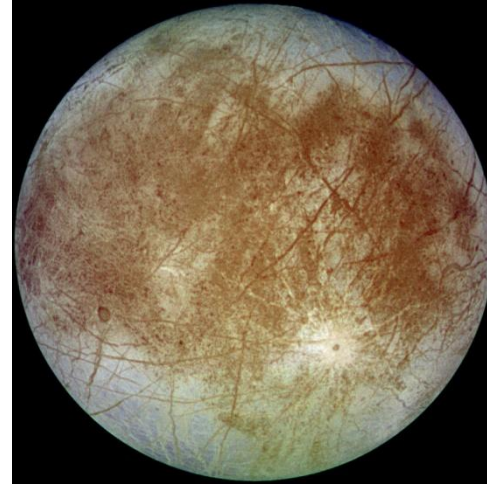
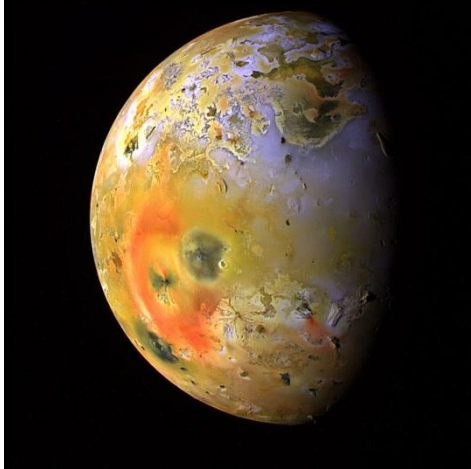
Fobos (2008)



Deimos (2009)



Luas de Júpiter: 67

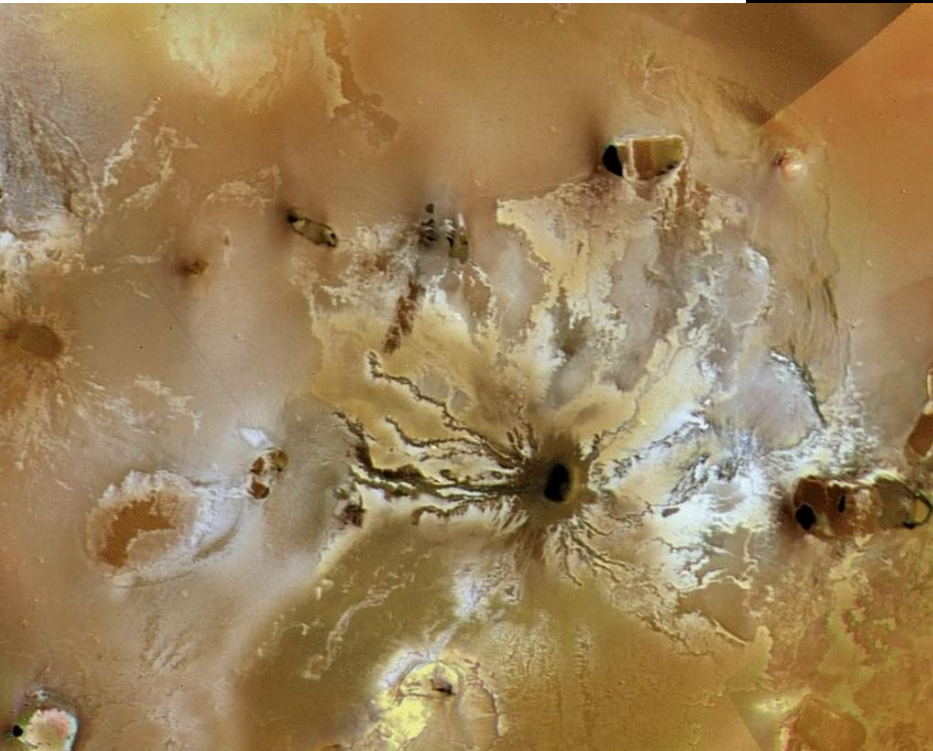
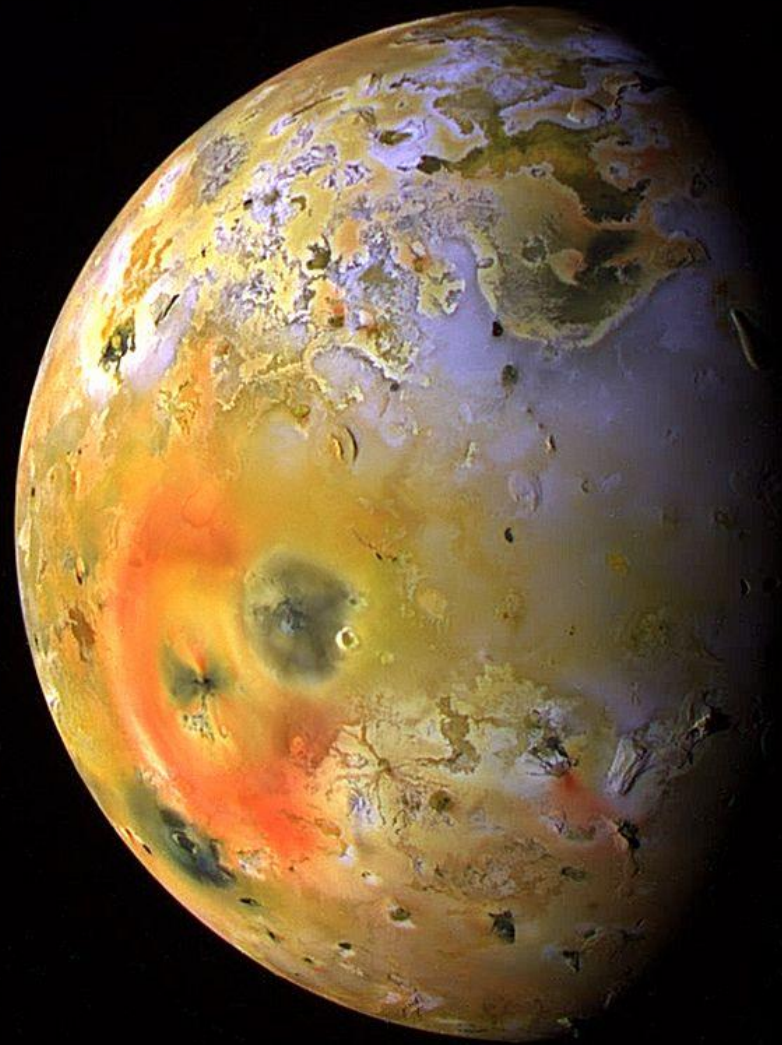


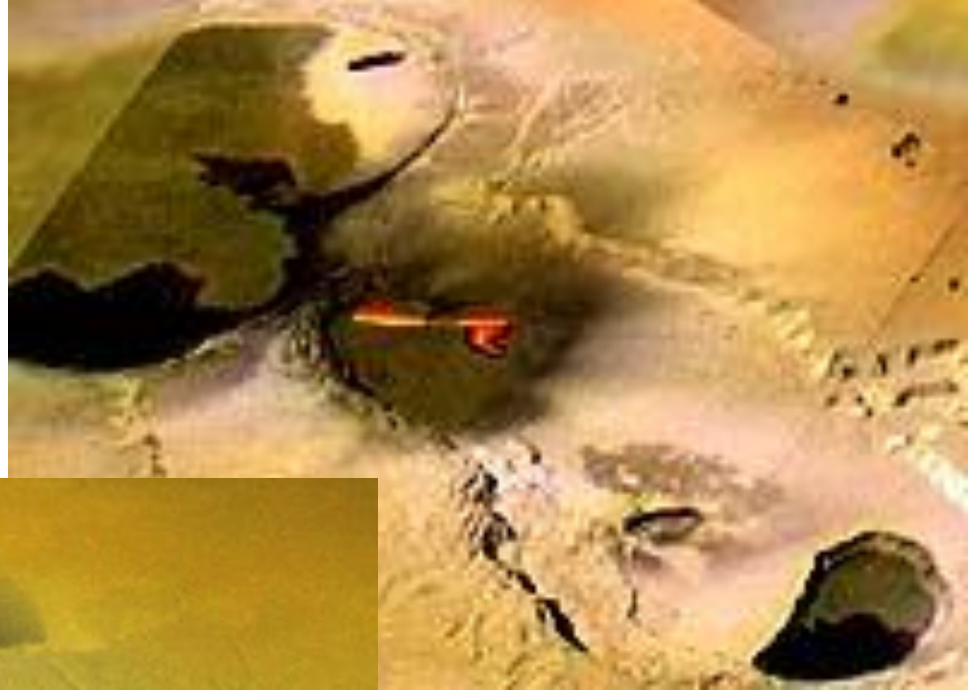
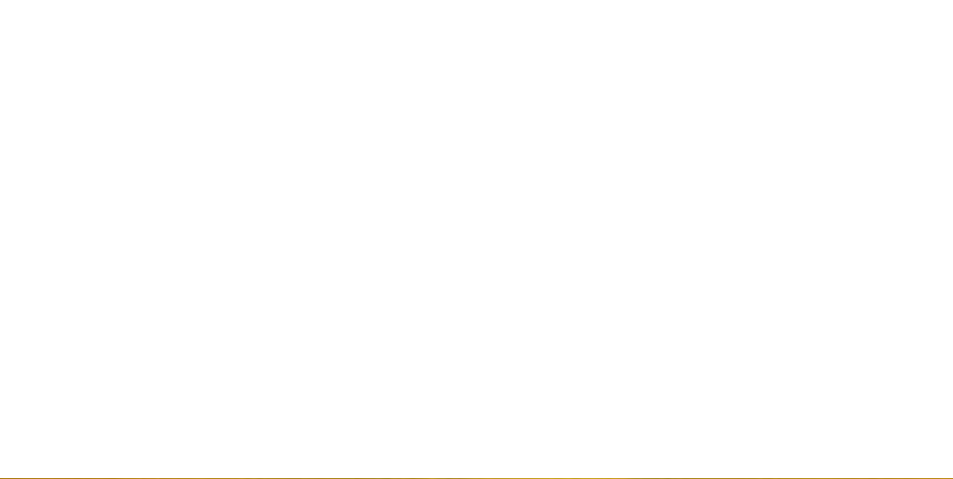
Io

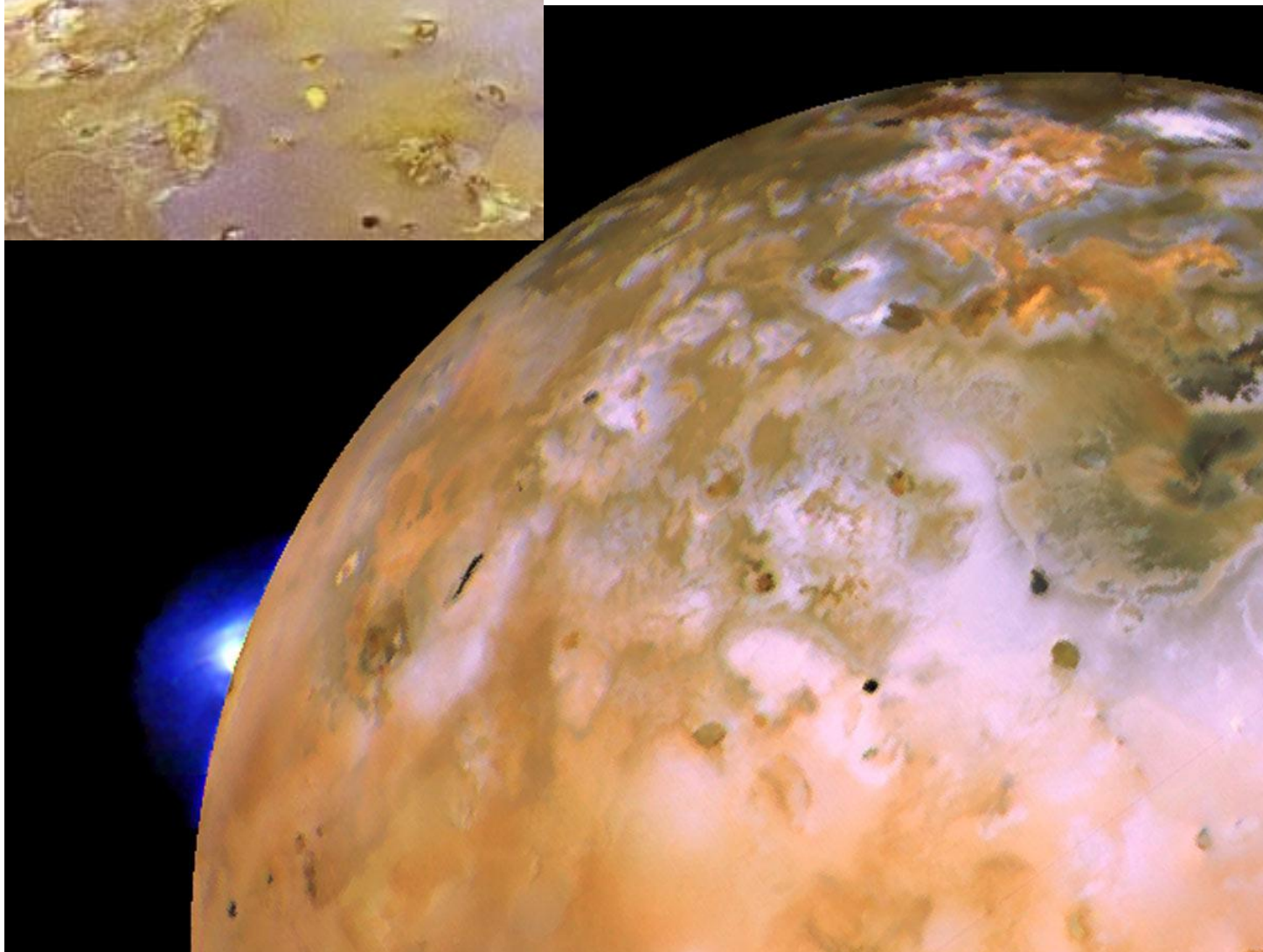
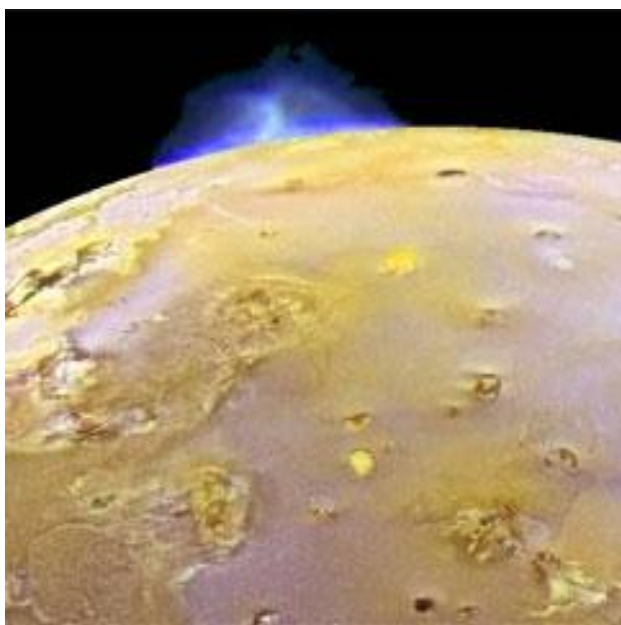
(Júpiter I)

(NASA: Voyager 1-1979

Voyager 2 e Galileo-1999)



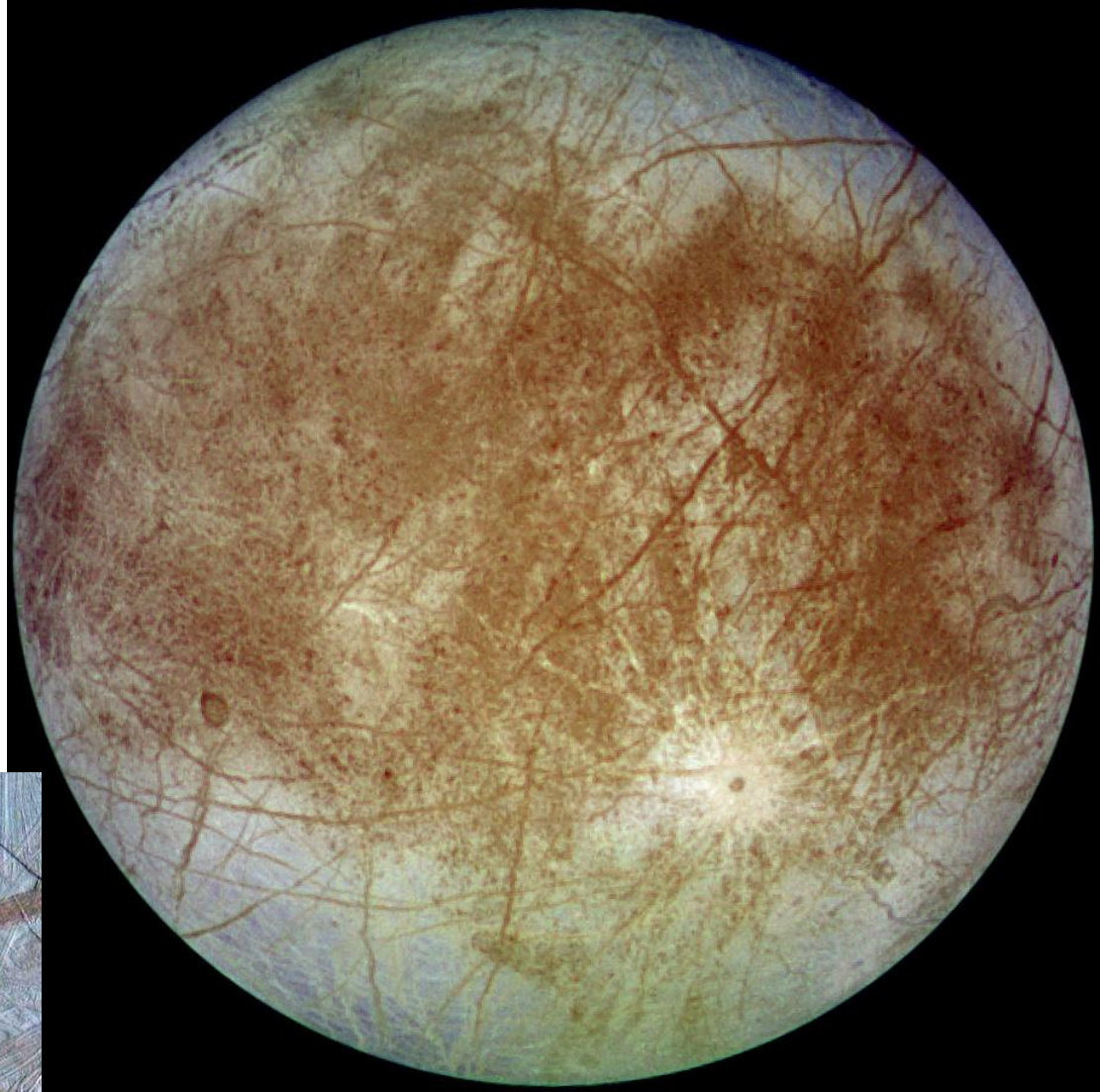




Europa

Júpiter II

(NASA: Galileo, 1998)



Ganimedes

(Júpiter III)



Calisto

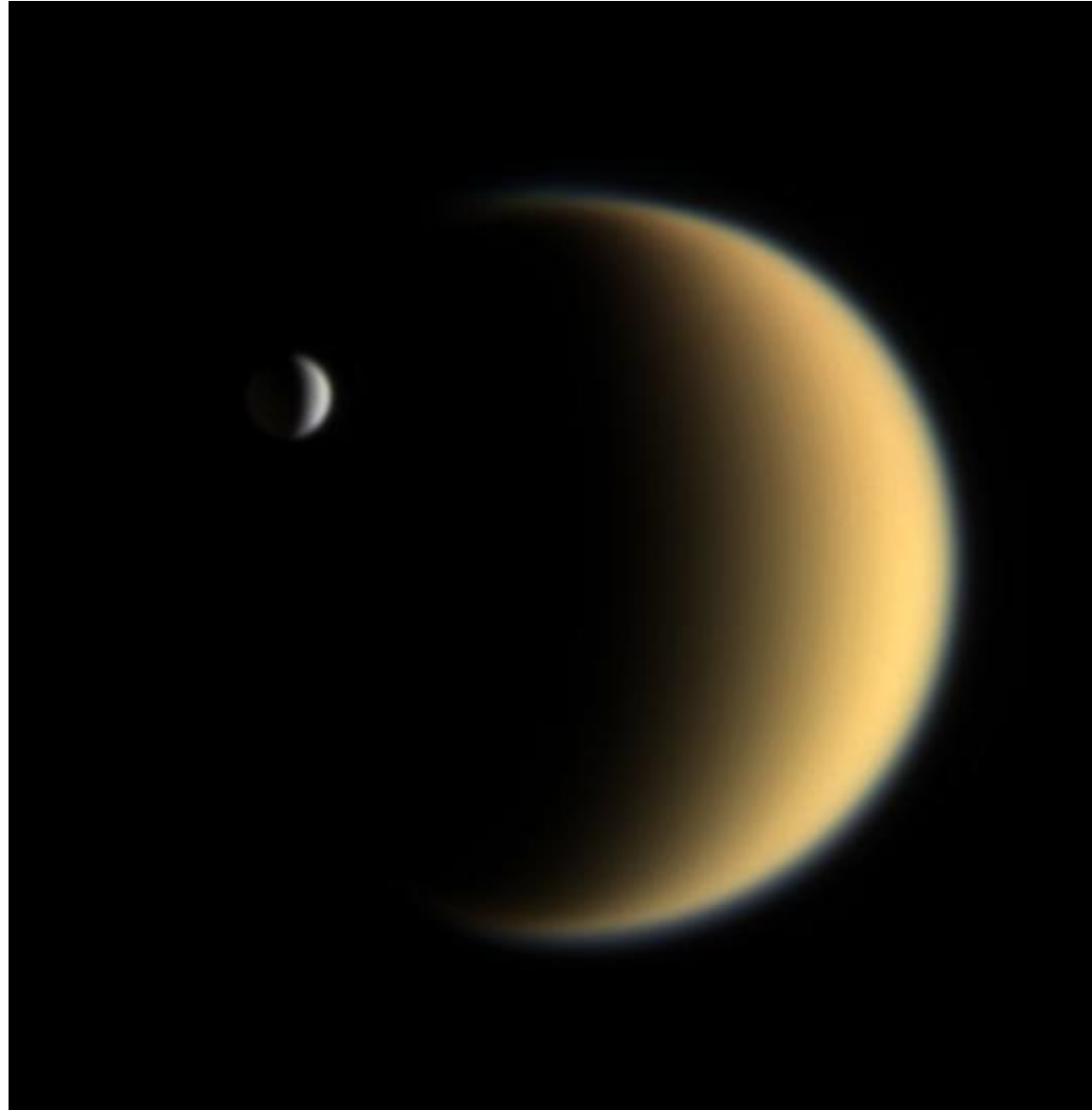
Júpiter IV



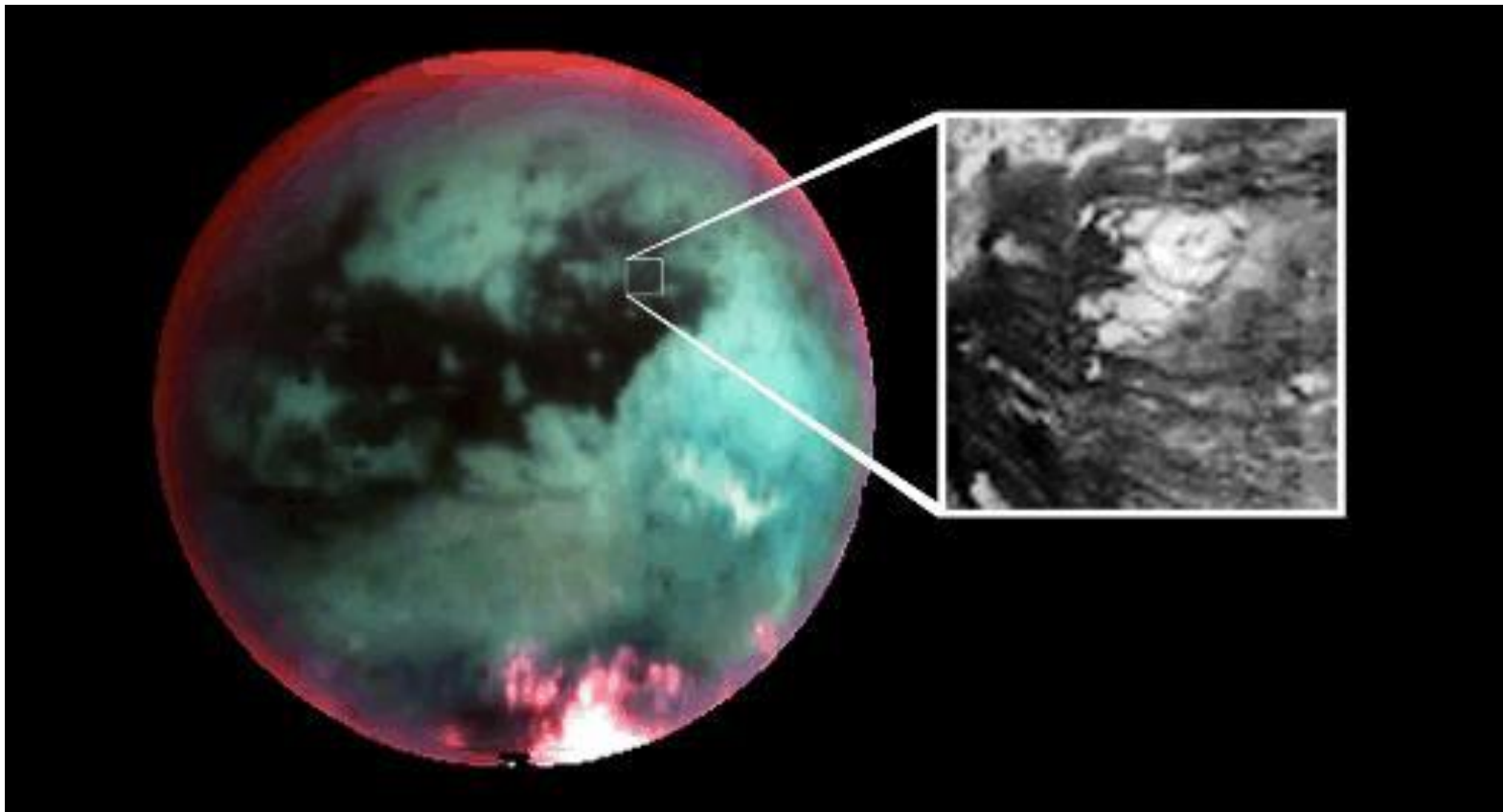
Luas de Saturno: 62

Titan (VI) e Encélado (II)

(NASA: Cassini)



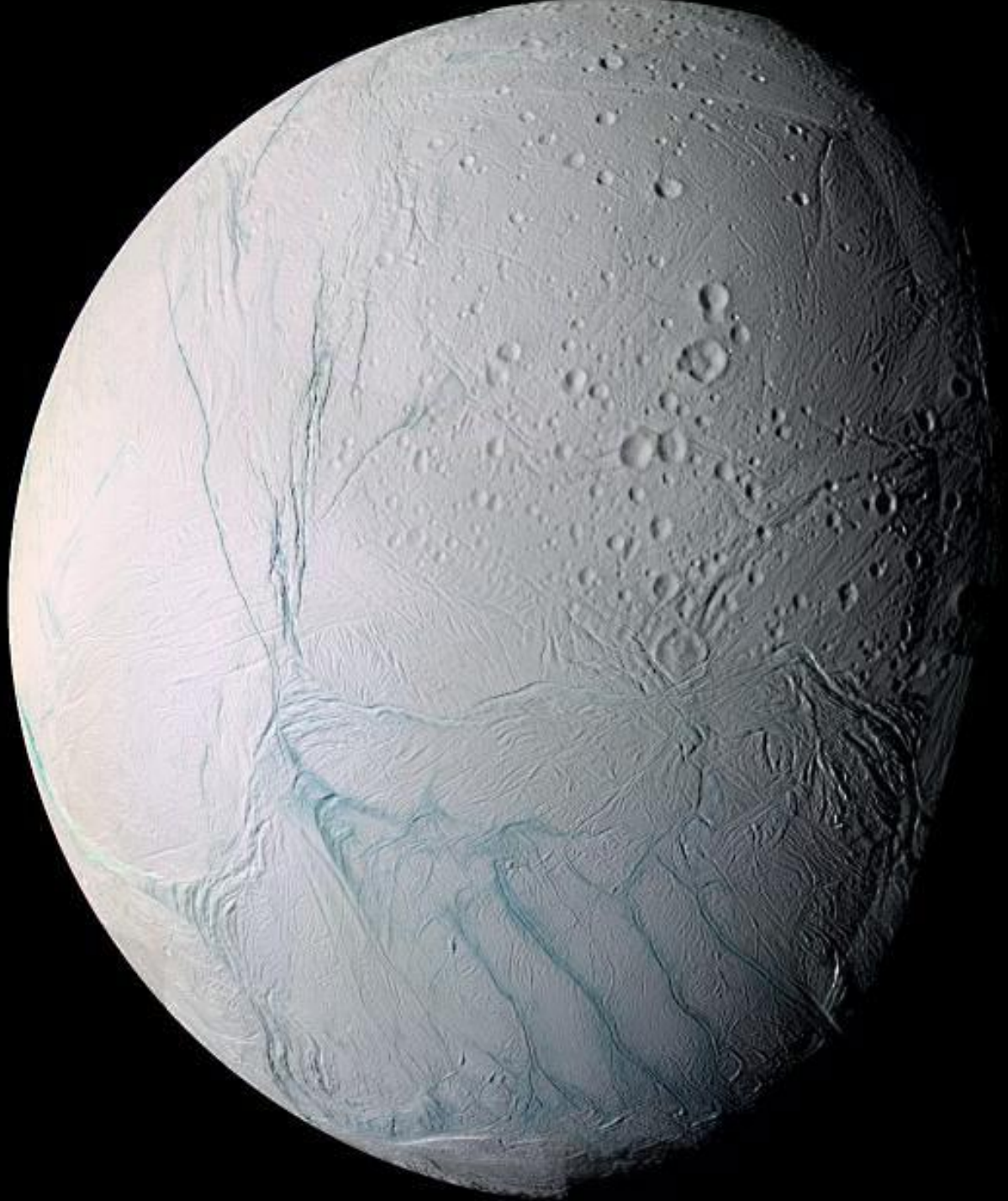
Titan: vulcões de gelo (criovulcanismo)



Encélado

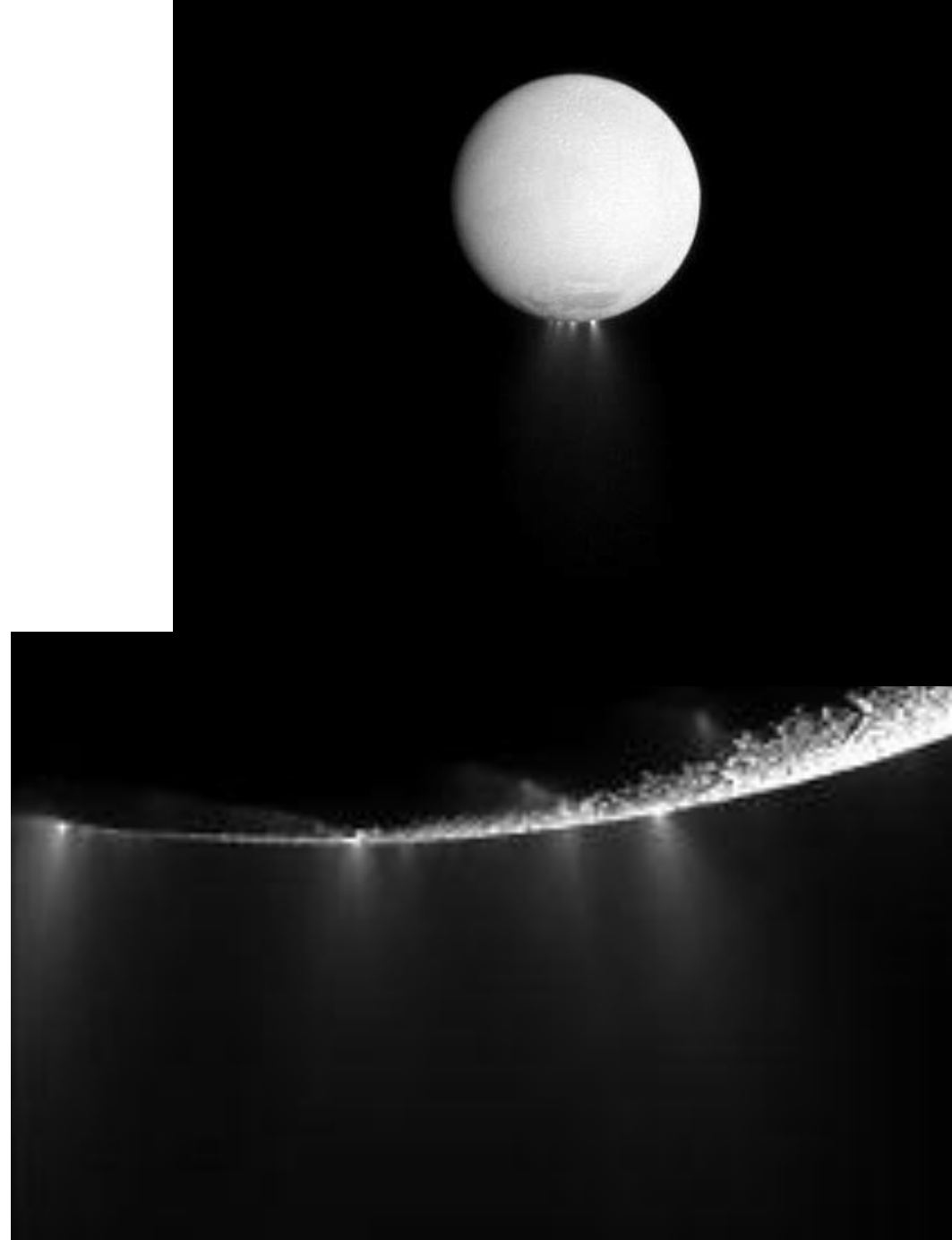
D = 500 km

(Herschel, 28/8/1789)

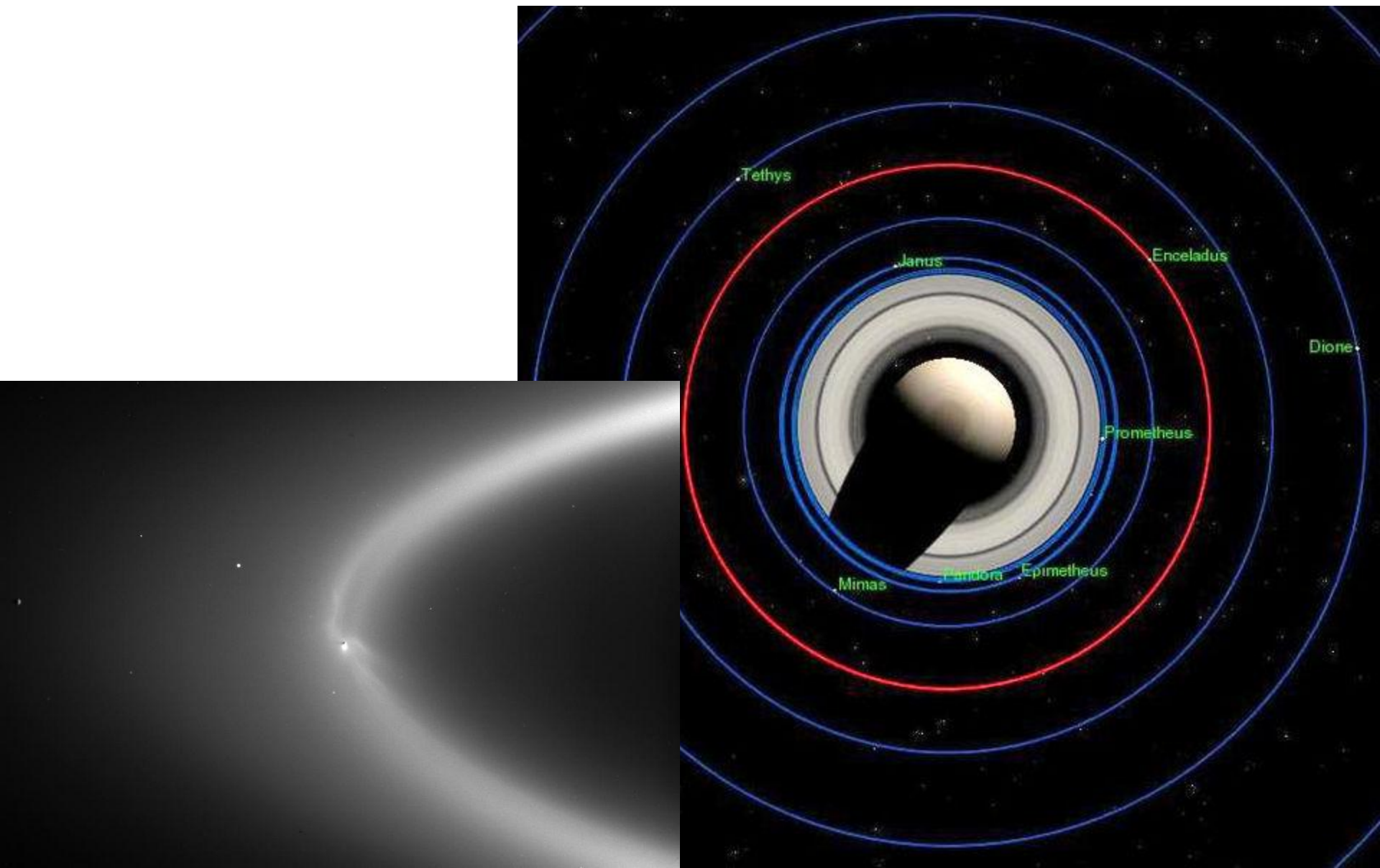


Encélado

(NASA: Cassini)



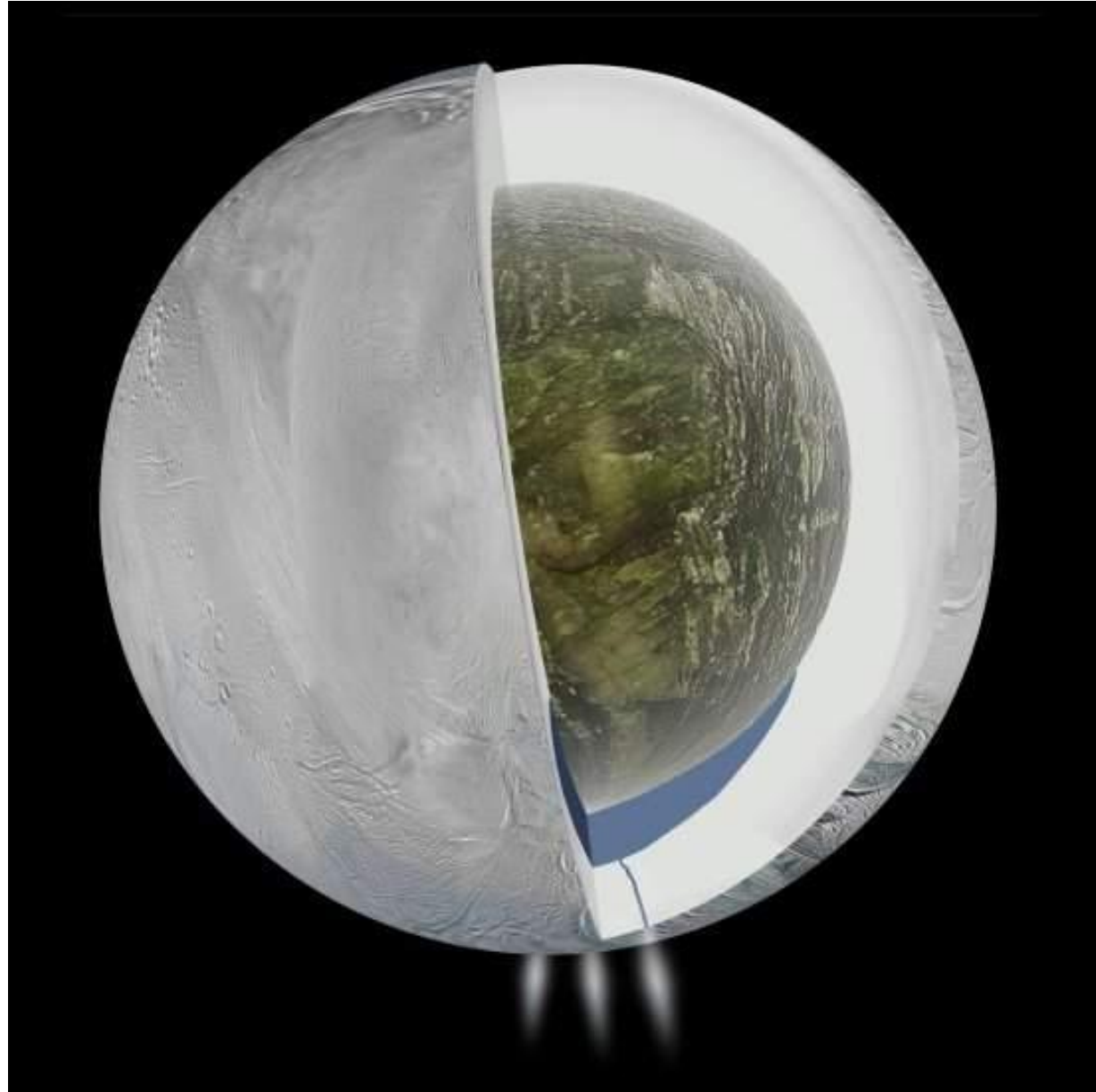
Encélado e o anel E de Saturno



Confirmação do lago no polo sul de Encélado

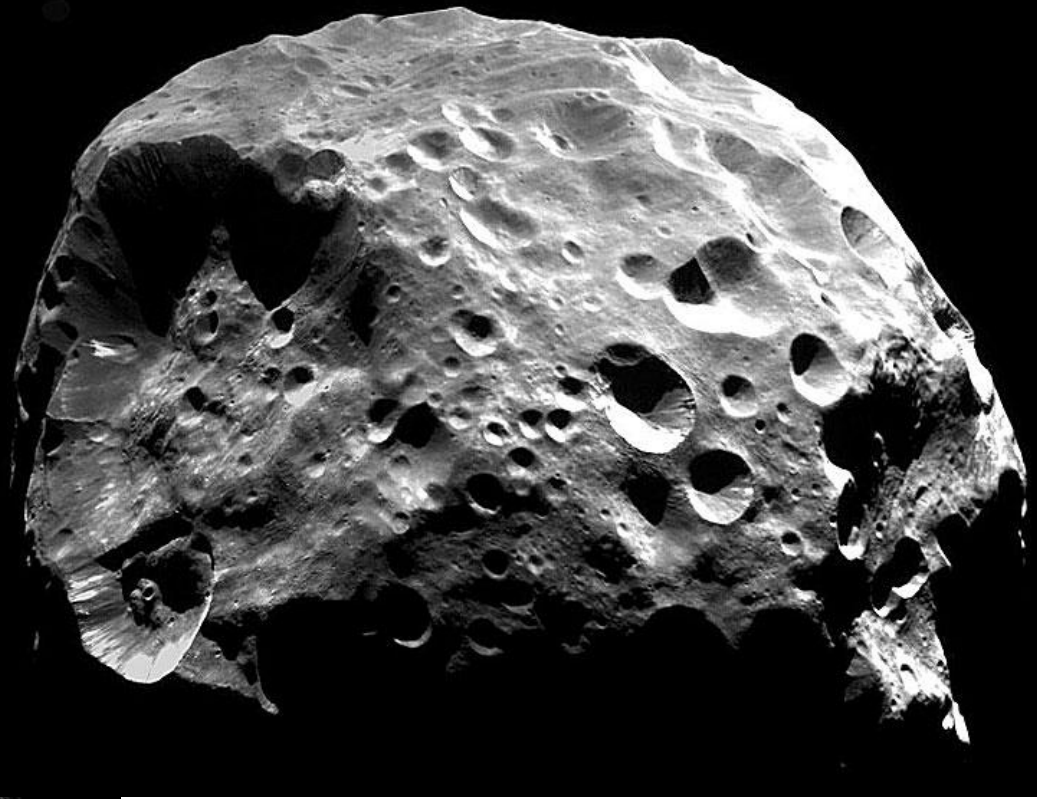
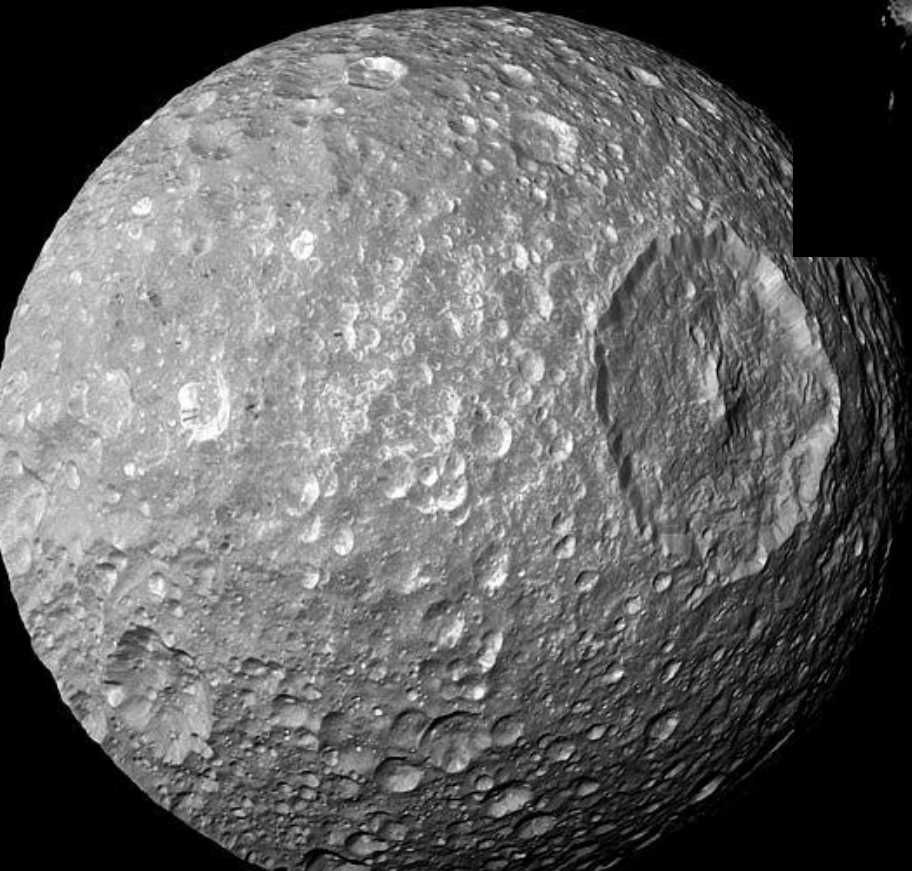
(Science 4/4/2014)

Modelo



Nave Cassini:

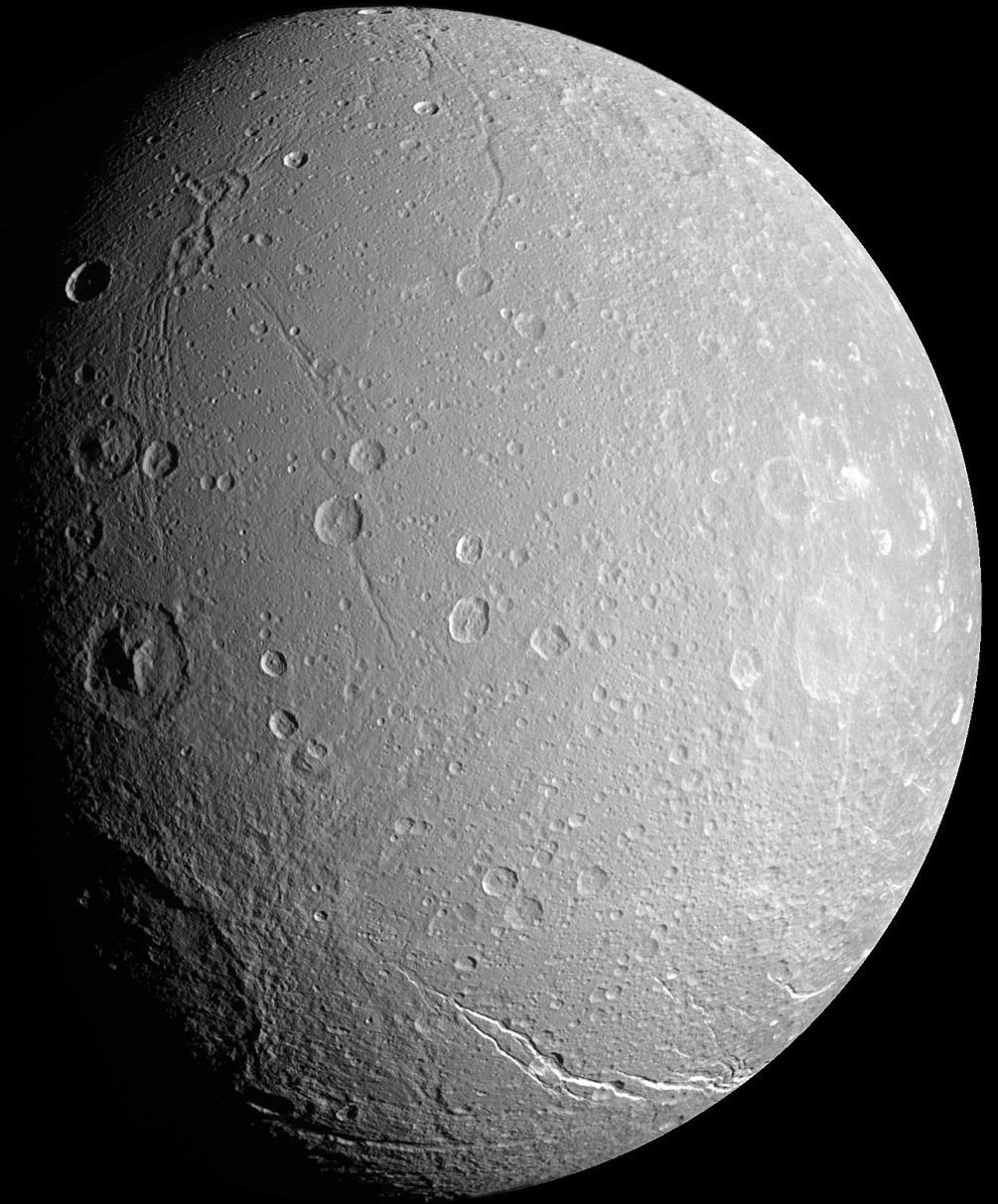
Mimas e Febe



Dione

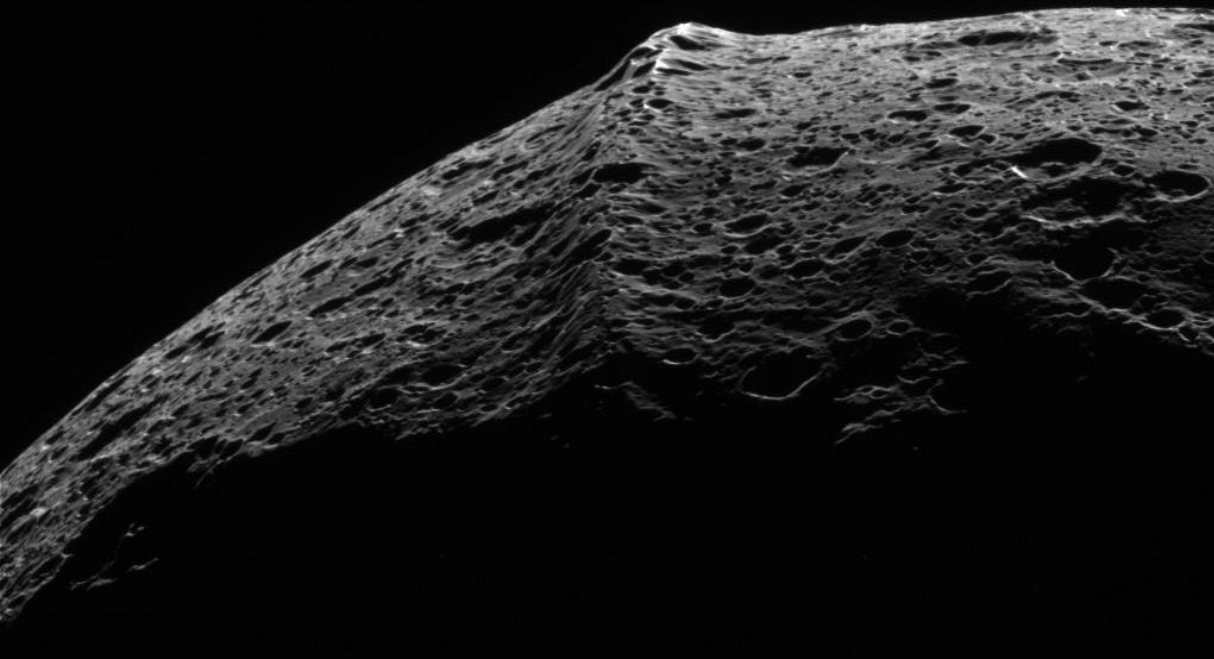
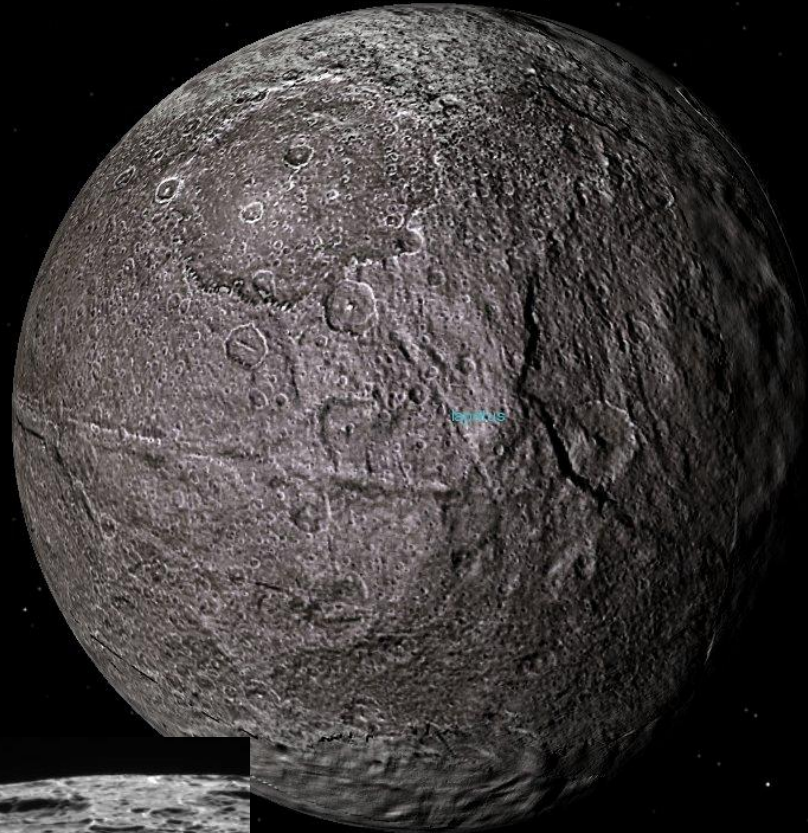
(Saturno IV)

(NASA-Cassini)

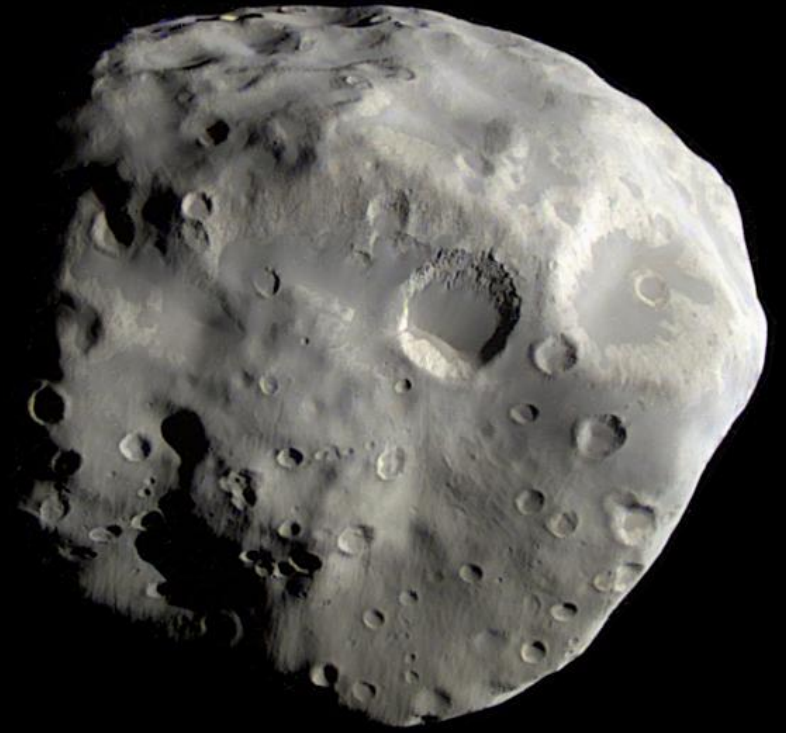


Iapetus

(Saturno VIII)



Ephimeteus



Urano (total de 28): Puck, Miranda, Ariel, Umbriel, Titânia e Oberon

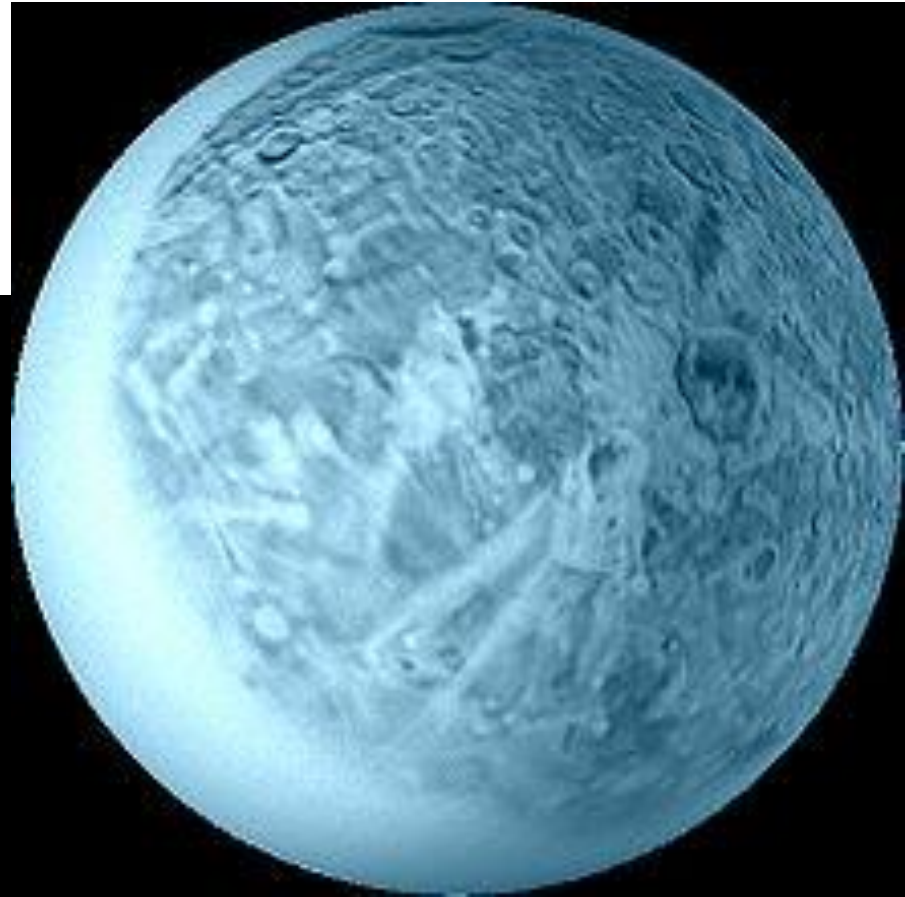
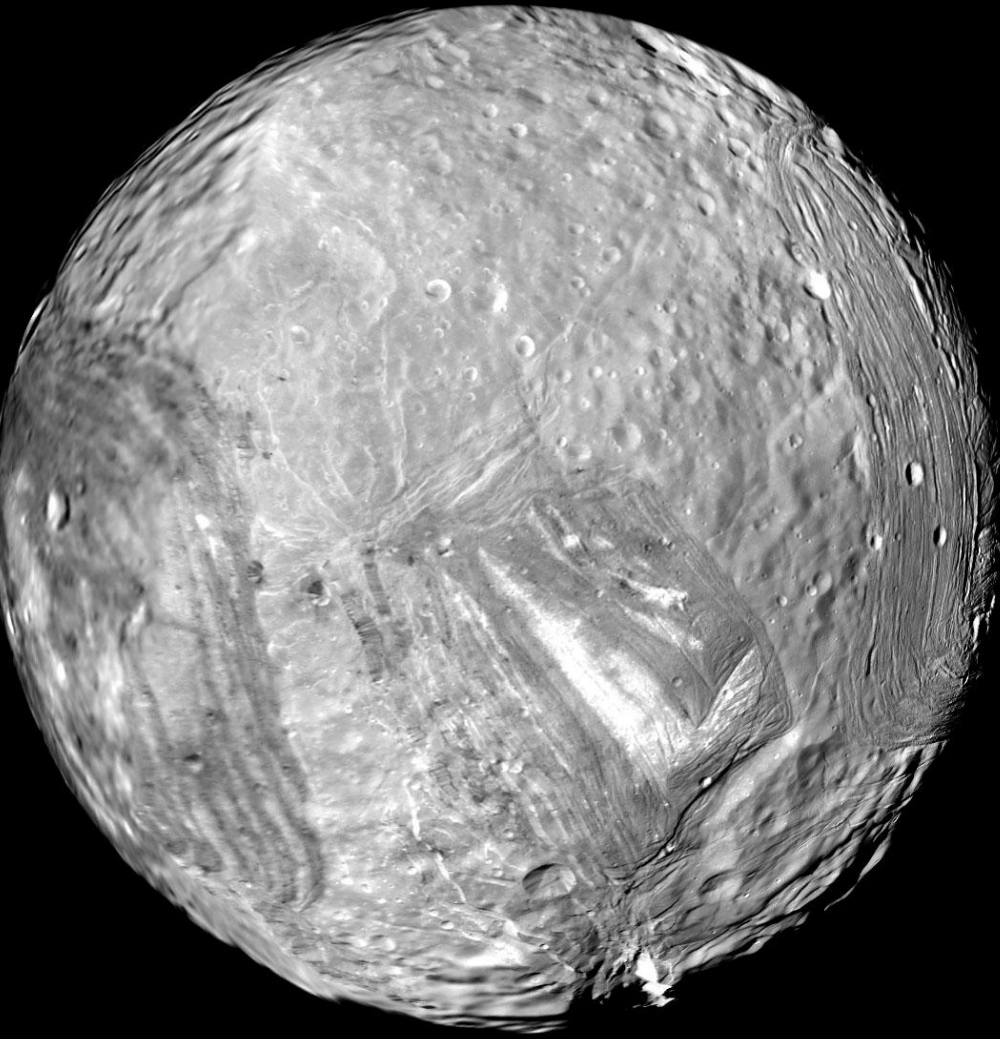


Voyager 2:

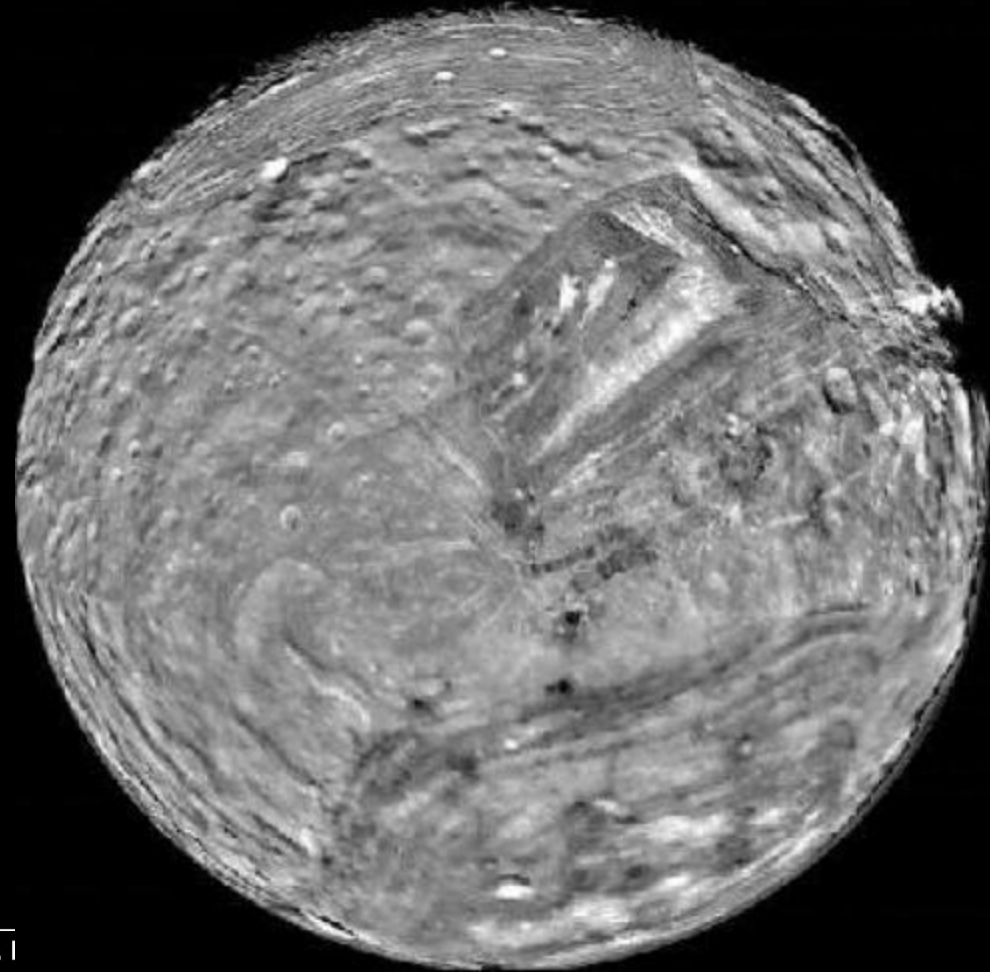
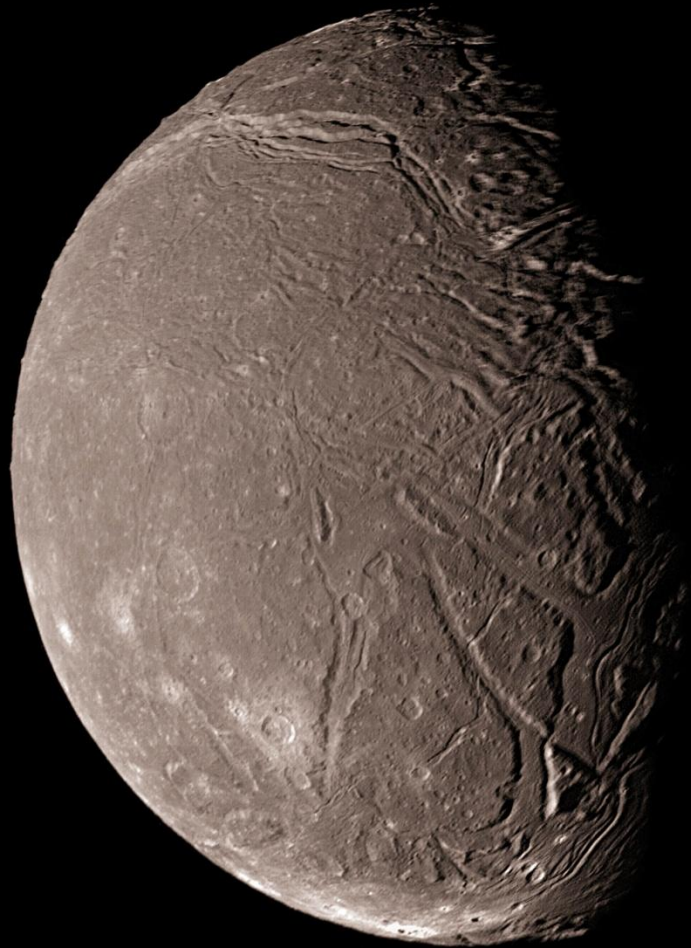
Miranda e

Oberon

(Urano)

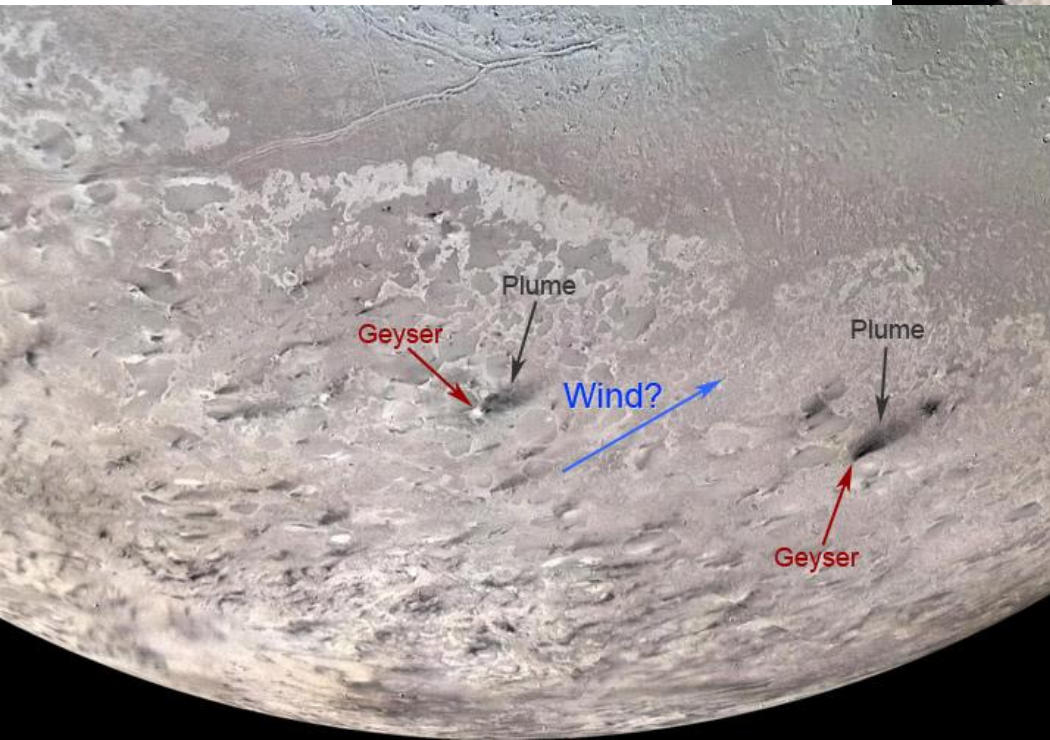


Voyager 2: Ariel e Ubriel (Urano)



Netuno (14)

Tritão, a maior lua de Netuno (Voyager 2, 1989) tem Gêiseres



O número de luas

- Mercúrio 0
- Vênus 0
- Terra 1
- Marte 2

- Júpiter 67
- Saturno 62
- Urano 28
- Netuno 14

O número de luas depende da massa do planeta e de sua distância ao Sol.

Formação: Acidentais nos planetas rochosos; discos primordiais nos planetas gasosos.

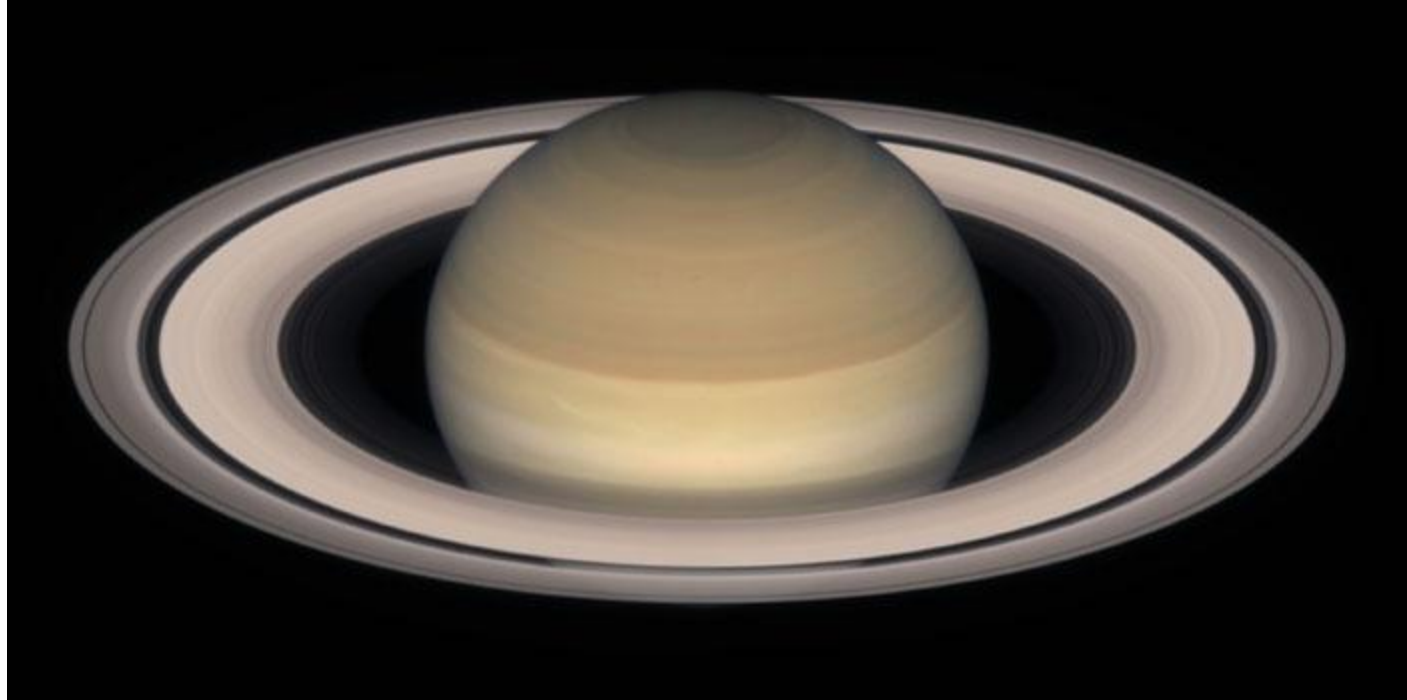
Atividade “geológica” em ação

- Terra: vulcões, terremotos, deriva continental
- Vênus: 3 vulcões ativos confirmados em 2010
- Mercúrio, Marte, Lua, Ganimedes, Tétis e Miranda: não há evidência de atividade atual; vulcões fósseis.
- Io: vulcões de enxofre; o mais ativo do sistema solar.
- Atividade tectônica e criovulcanismo: Europa e Titan, além de Encélado e Triton, com gêiseres .

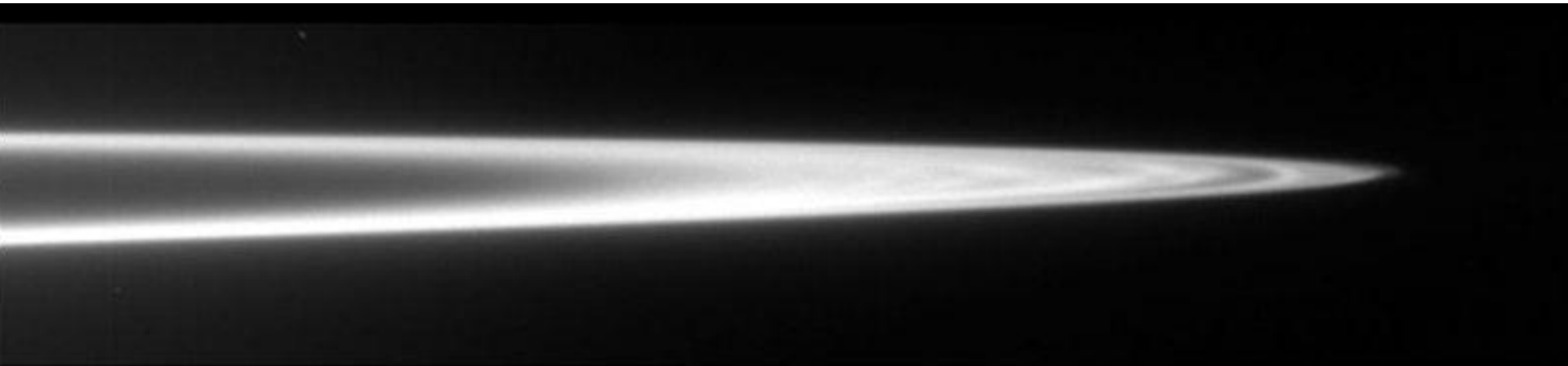
Água e chuva

- Água (em estado líquido) abaixo da superfície (sob camada de gelo): Oceanos em Europa, Ganimedes, Calisto, Titan ; lago em Encélado.
- Ceres: vapor de água do quê?
- Titan: chuva de metano e lagos de hidrocarbonetos.

Anéis:
Saturno (HST)



Júpiter (Cassini)

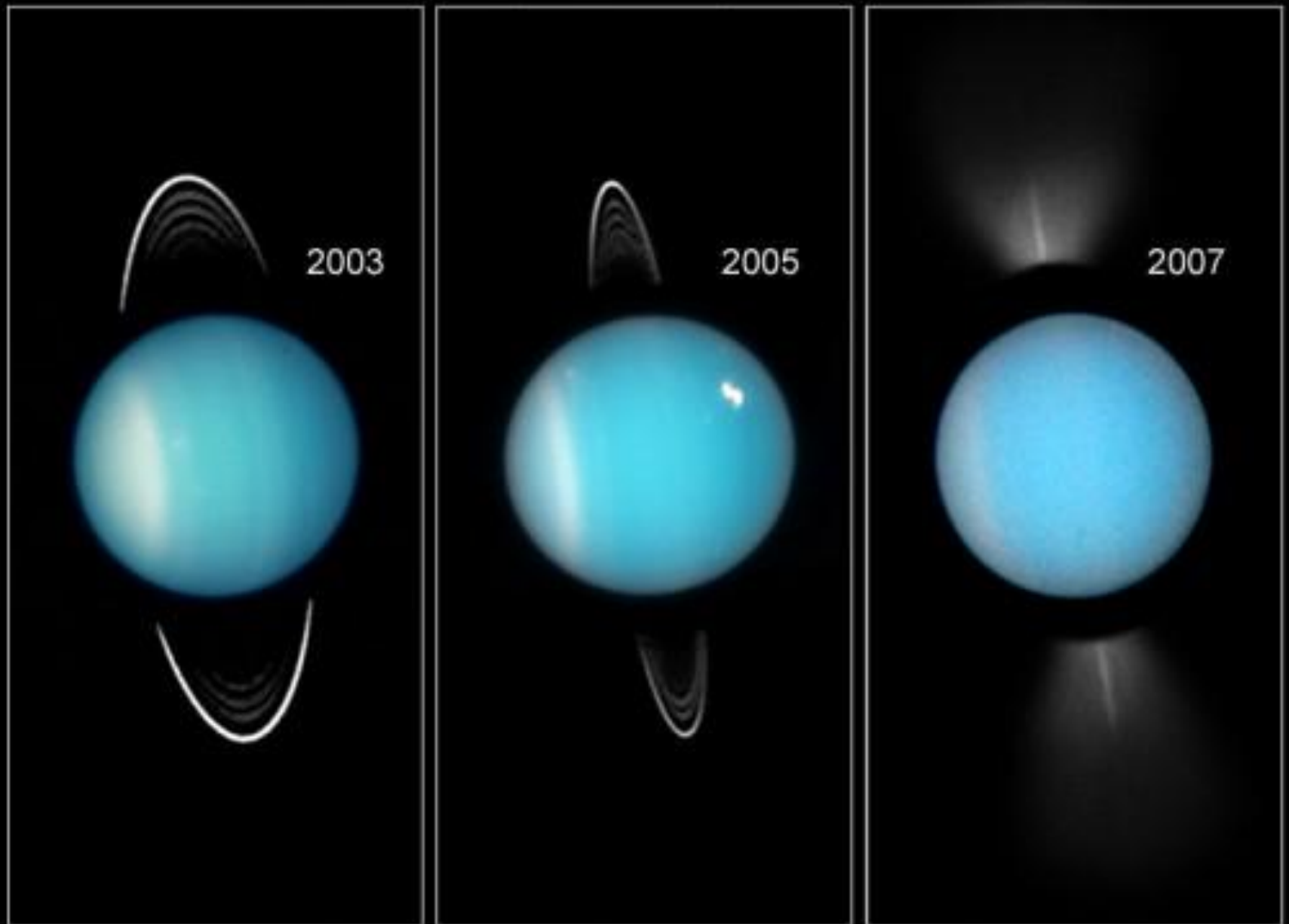


Voyager 2: Urano

e Netuno



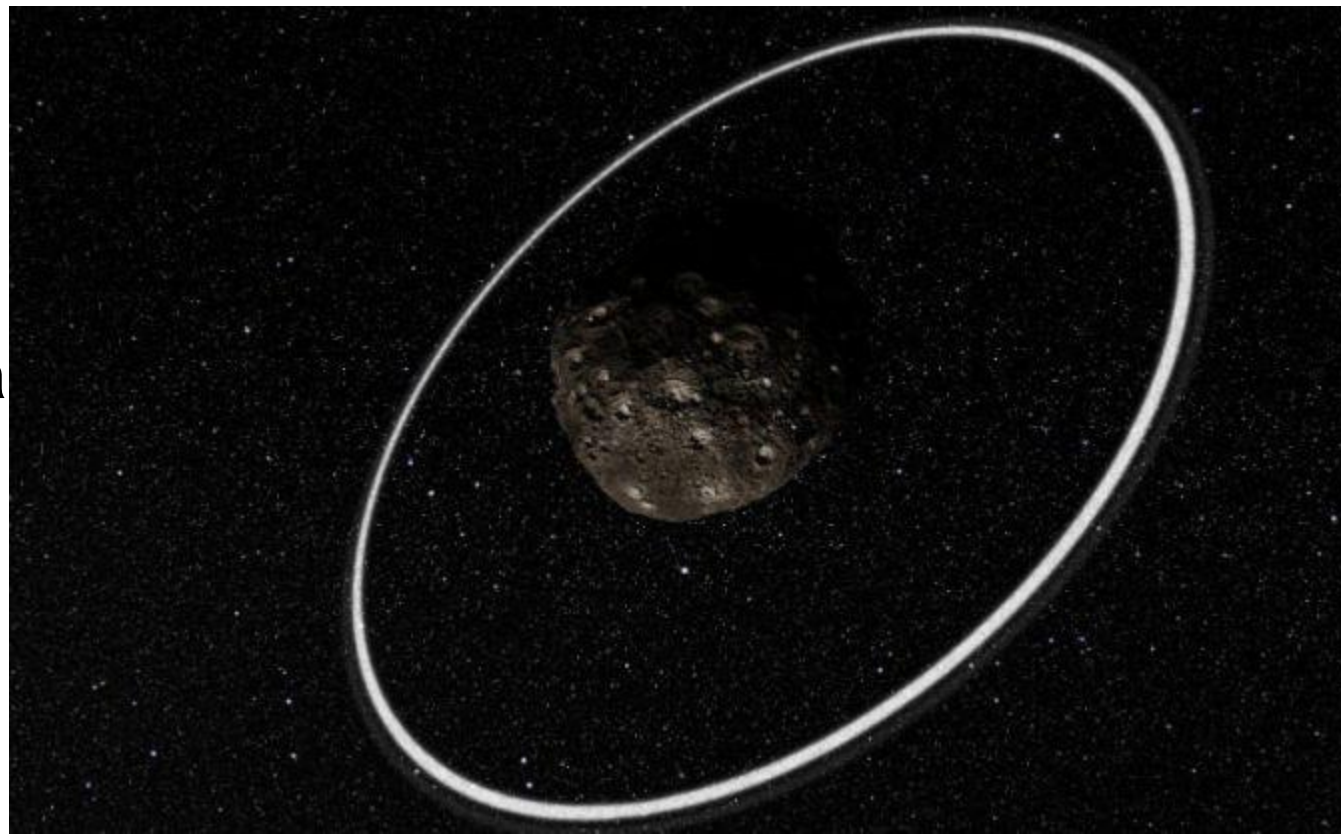
Uranus ■ *Hubble Space Telescope ACS/HRC WFPC2*



O centauro **Chariklo** tem dois anéis

(É o maior Centauro, com 260 km)

Descoberto o primeiro par de anéis em torno de um asteroide (Centauro) por Felipe Braga-Ribas (Observatório Nacional) e outros 60 autores, sendo 11 brasileiros (publicado na revista Nature em 26/3/2014). Os anéis se chamam Oiaopoque e Chui.



Concepção artística

Os anéis de Chariklo

ocultação de estrela

