

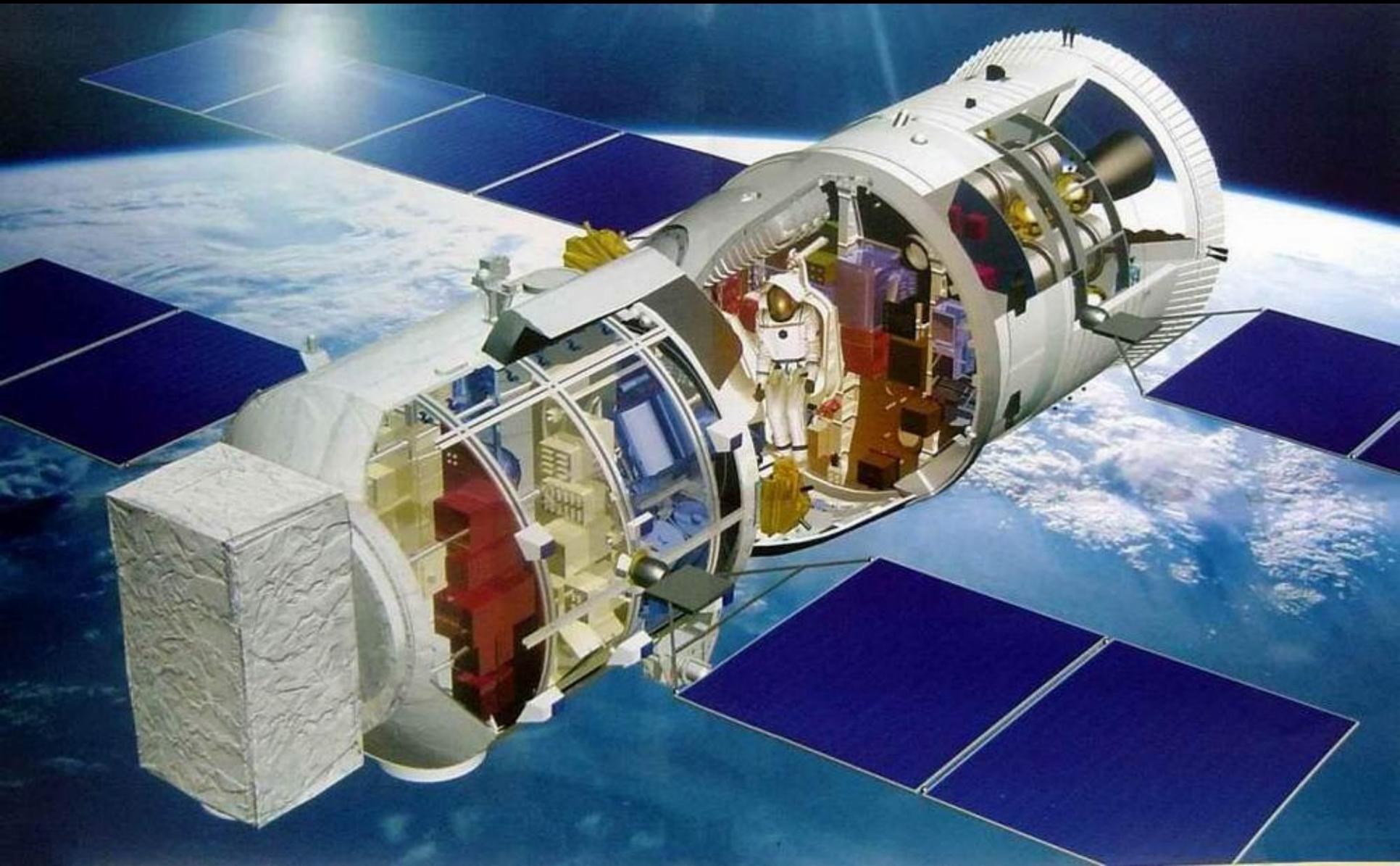
Až na konec světa (a ještě o kousek dál)

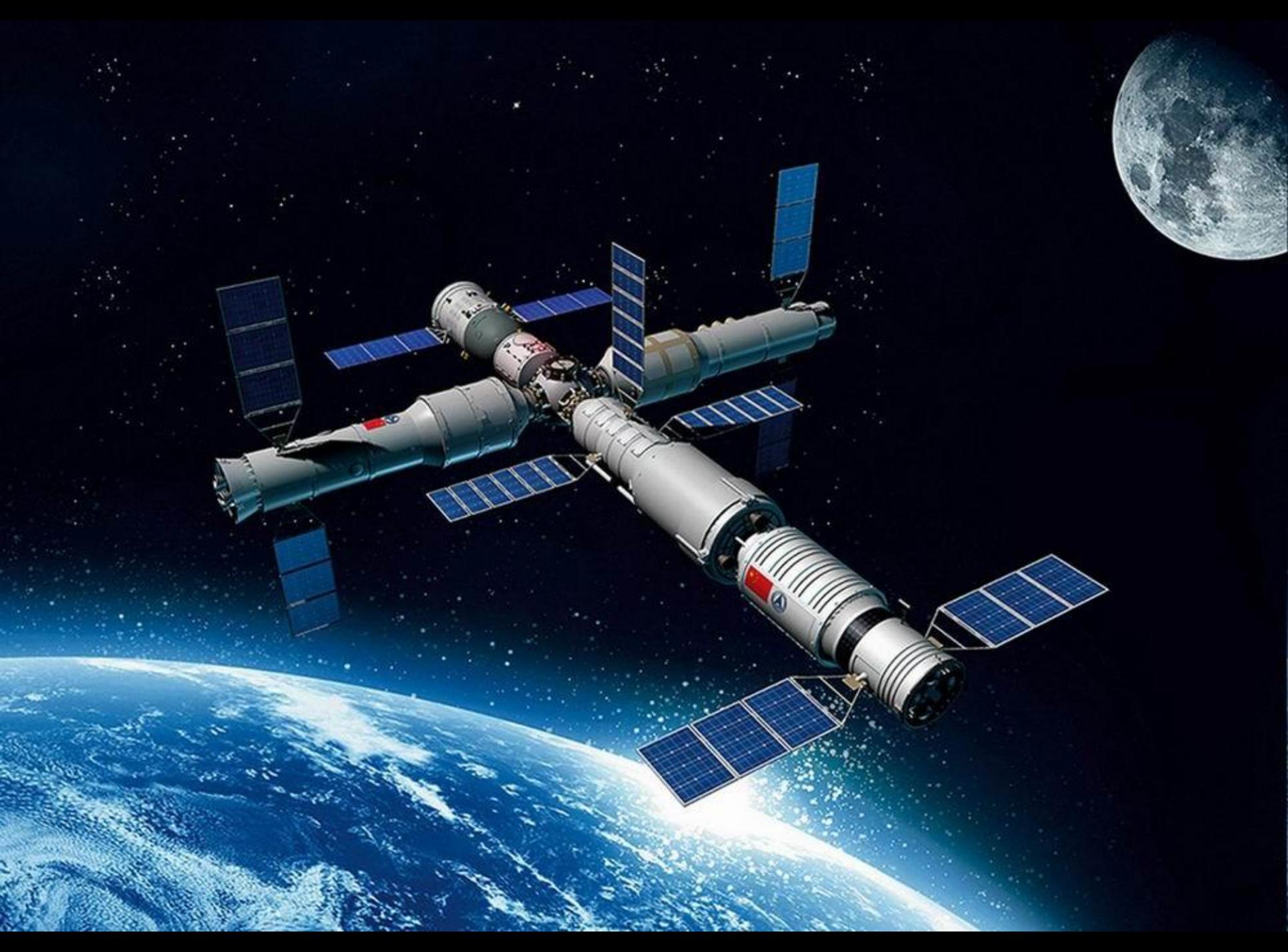
Ing. Tomáš PŘIBYL
pribyl@technicalmuseum.cz
www.technicalmuseum.cz

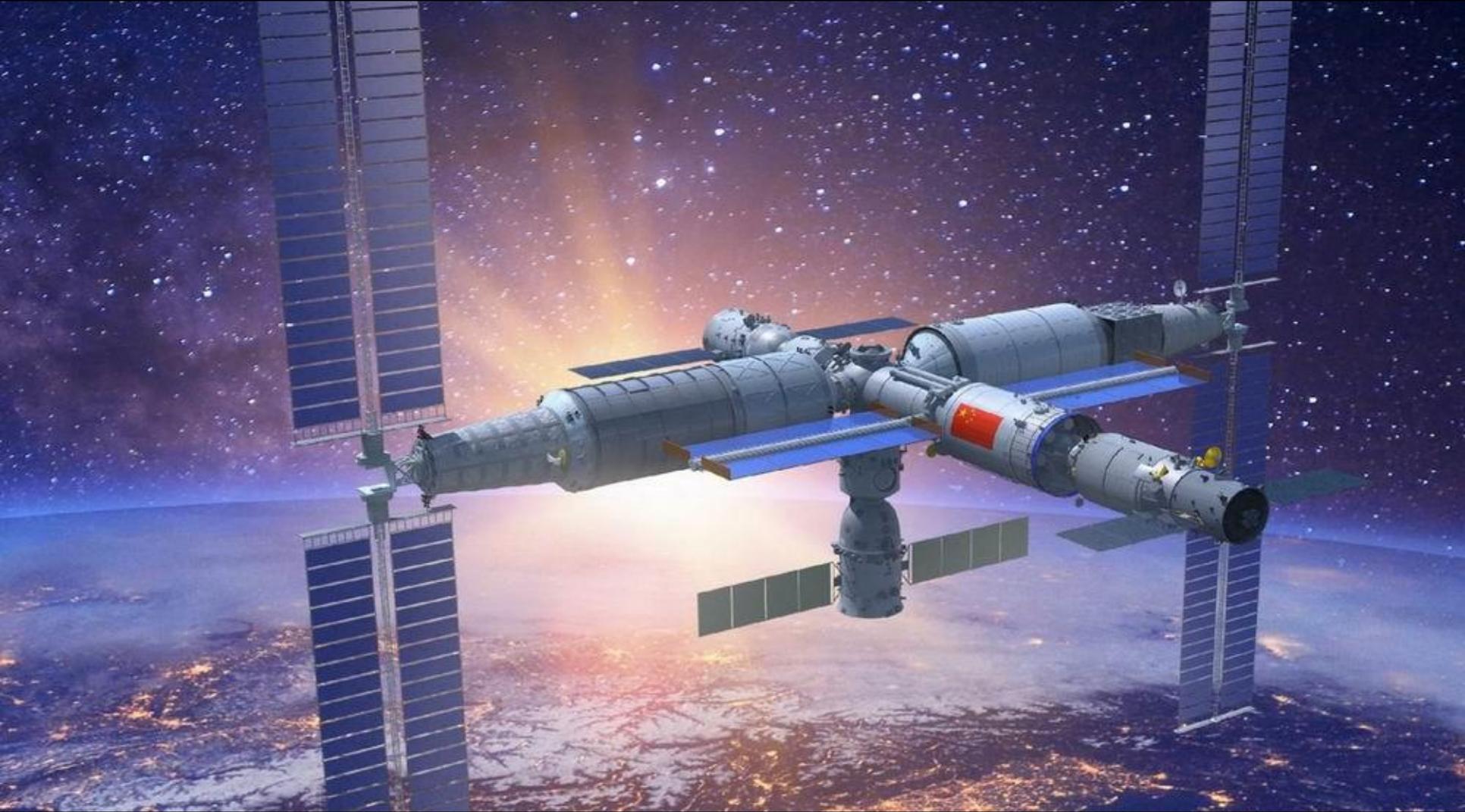


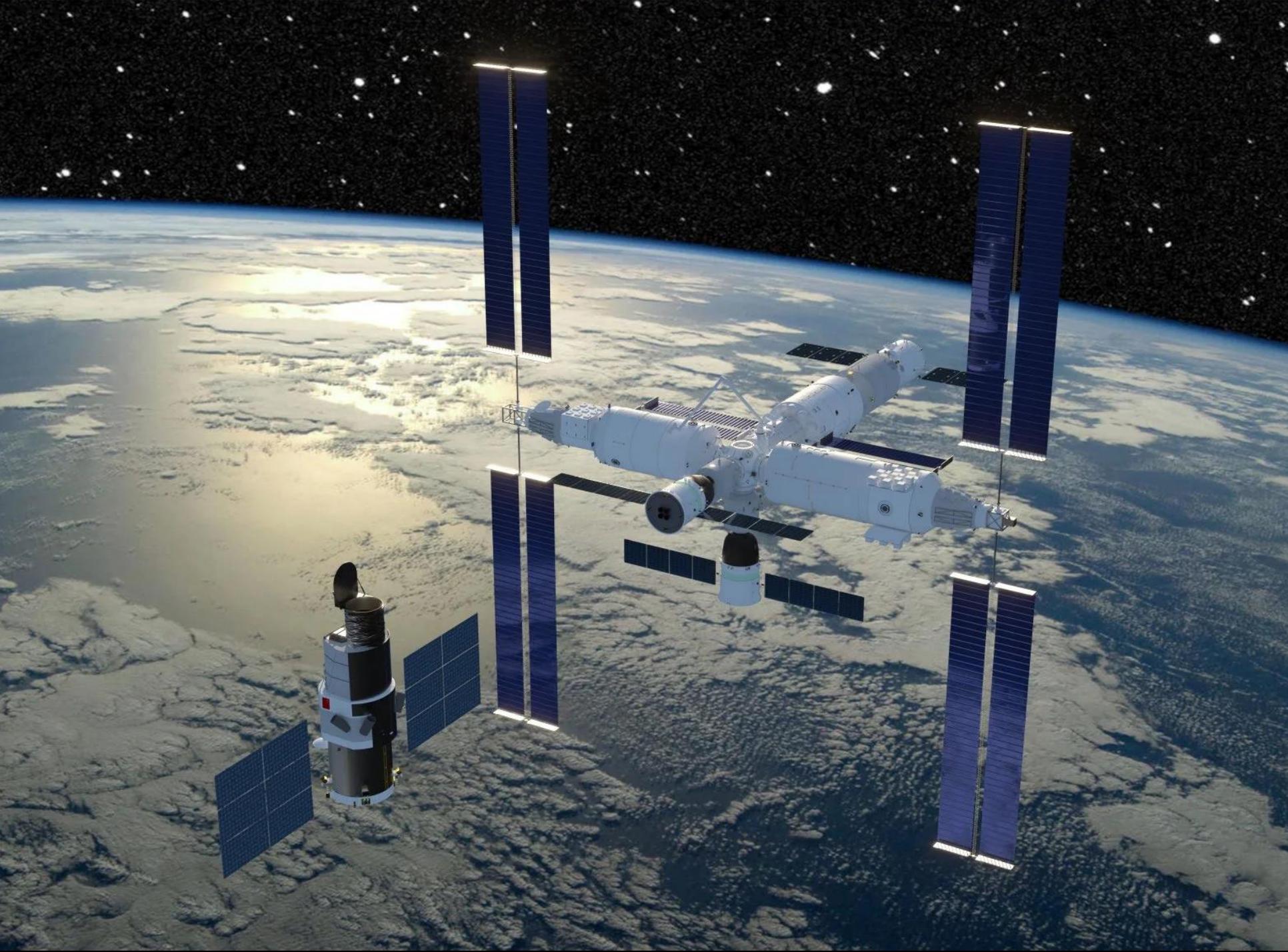






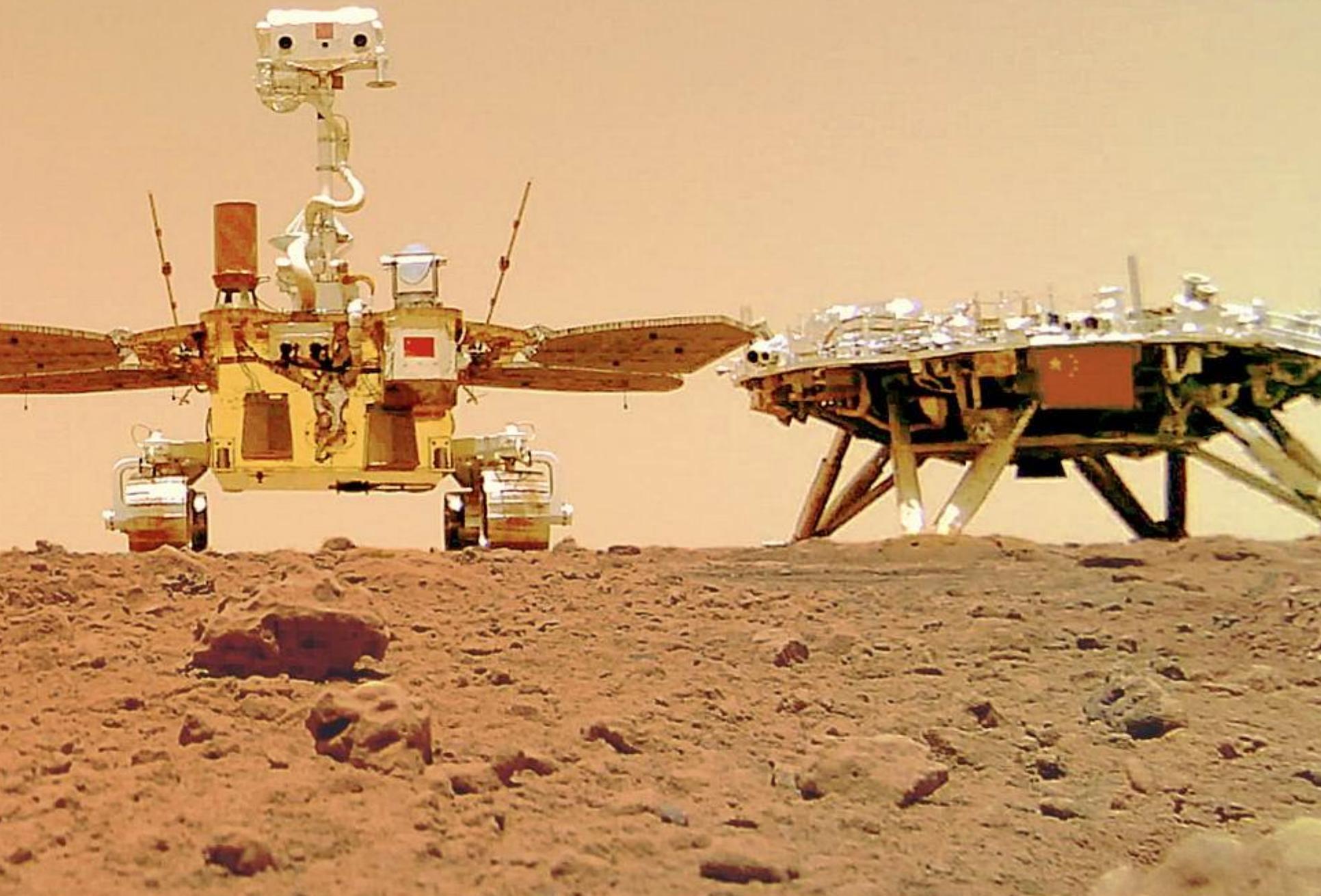




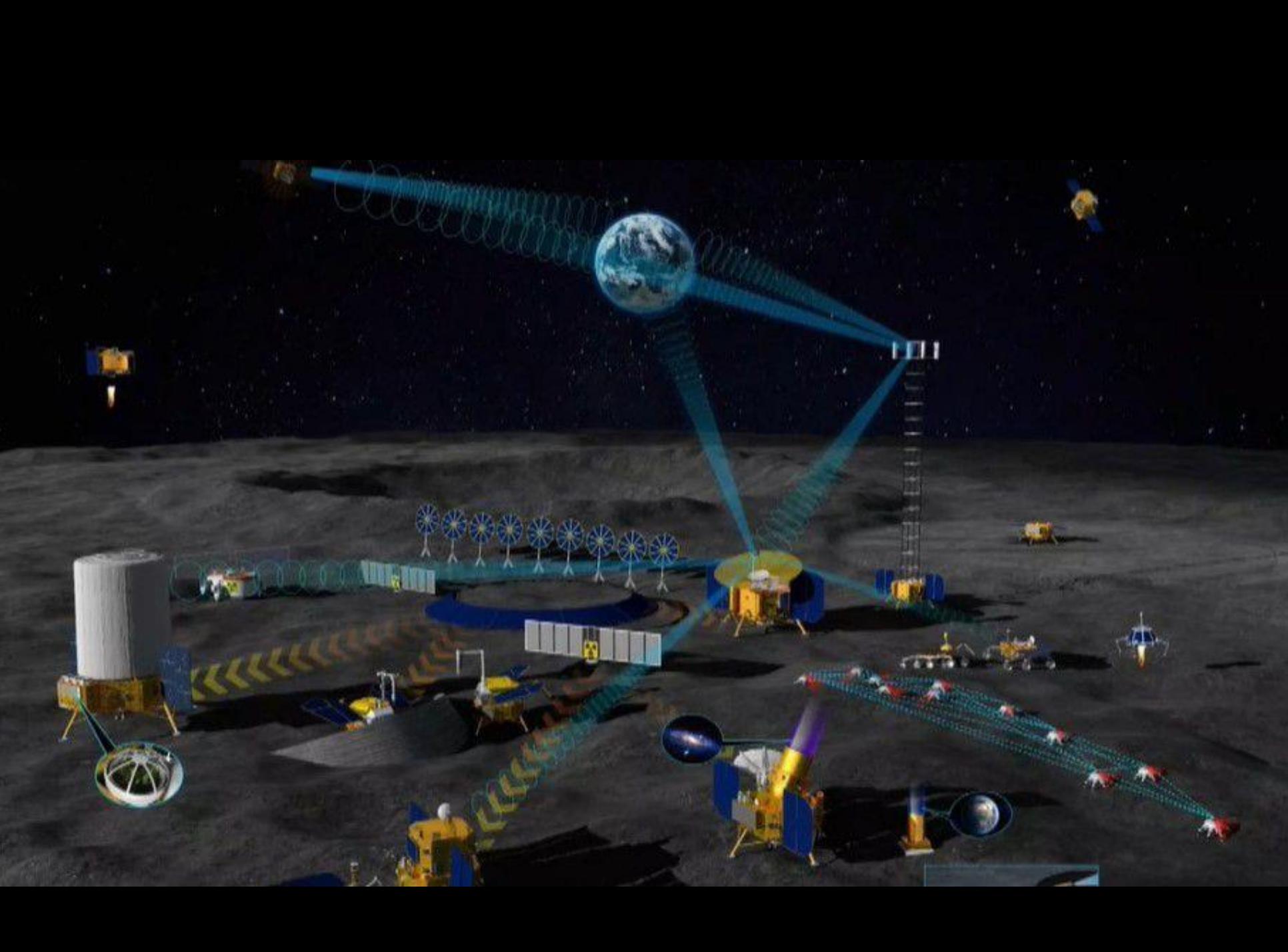


Xuntian – „čínský Hubble“











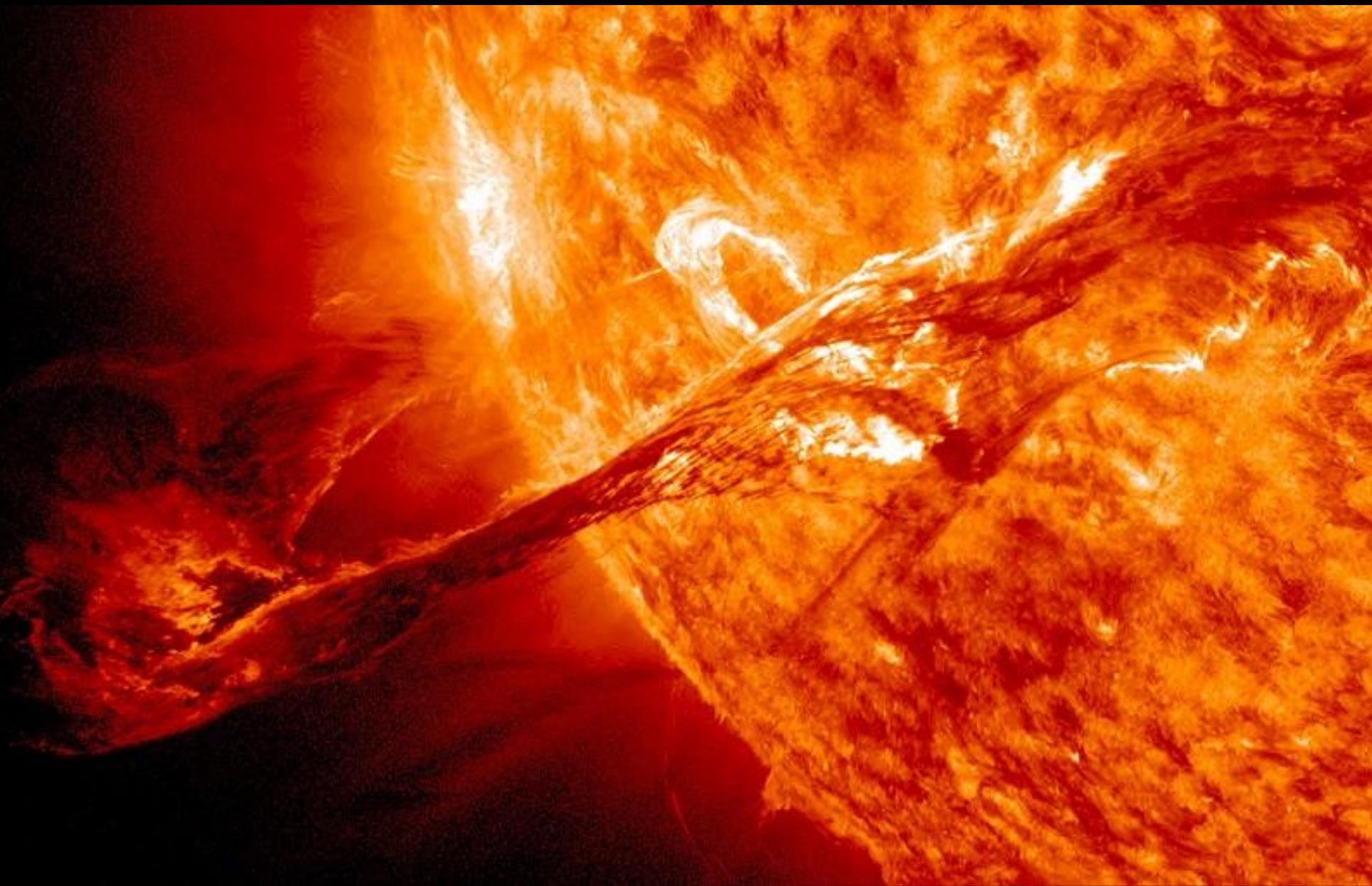
Až na konec světa (a ještě o kousek dál)

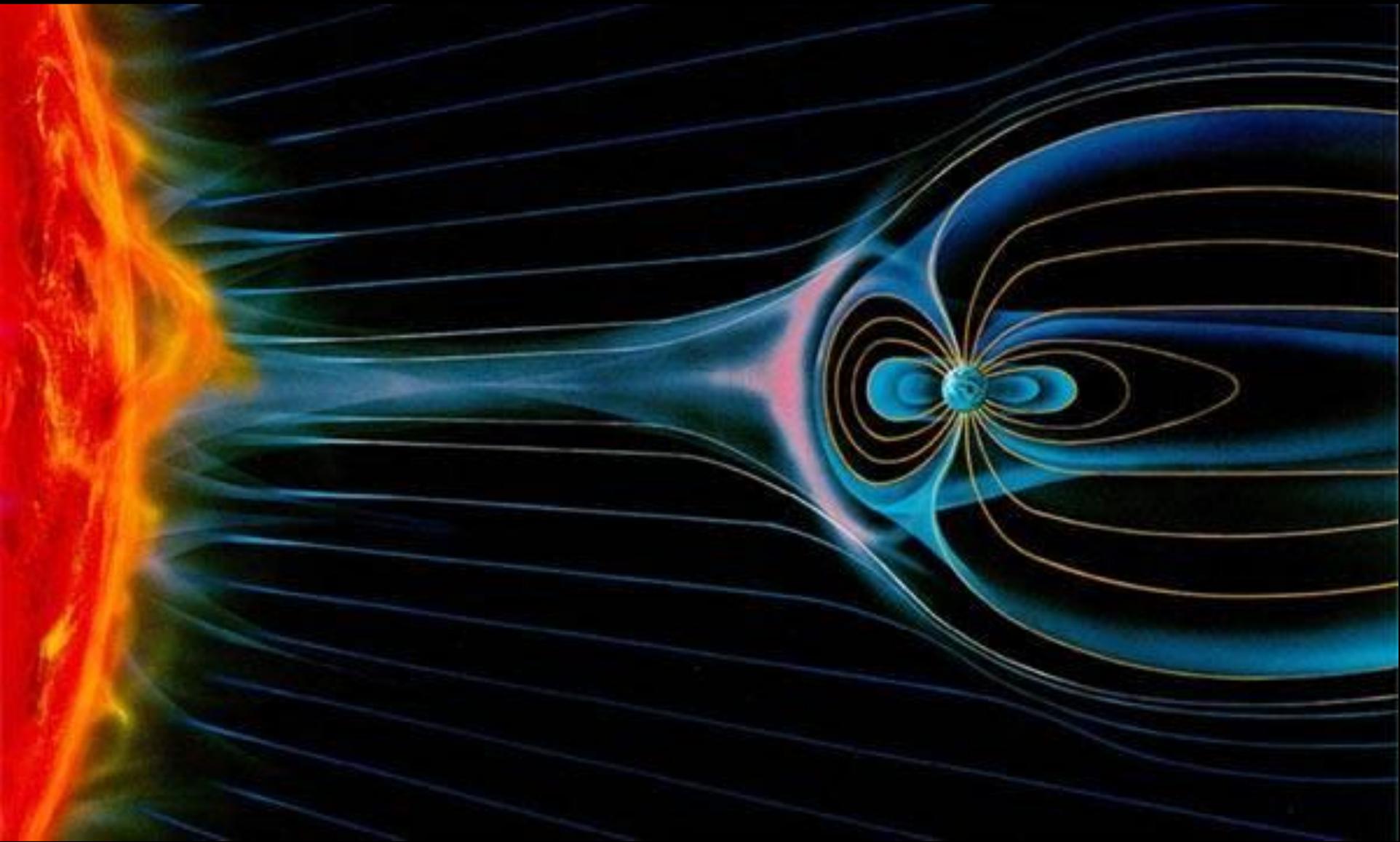
Ing. Tomáš PŘIBYL
pribyl@technicalmuseum.cz
www.technicalmuseum.cz



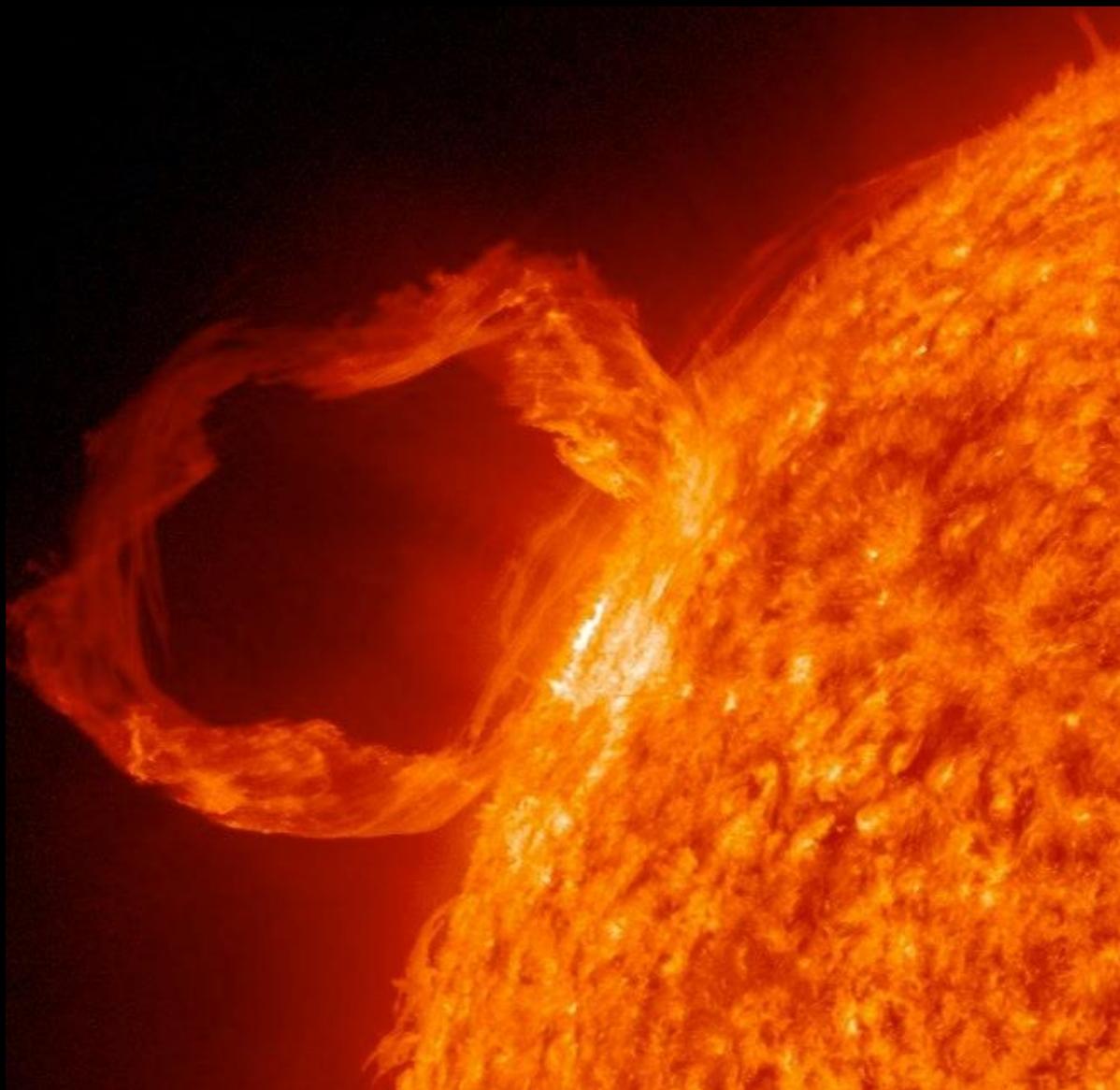
Předskokani



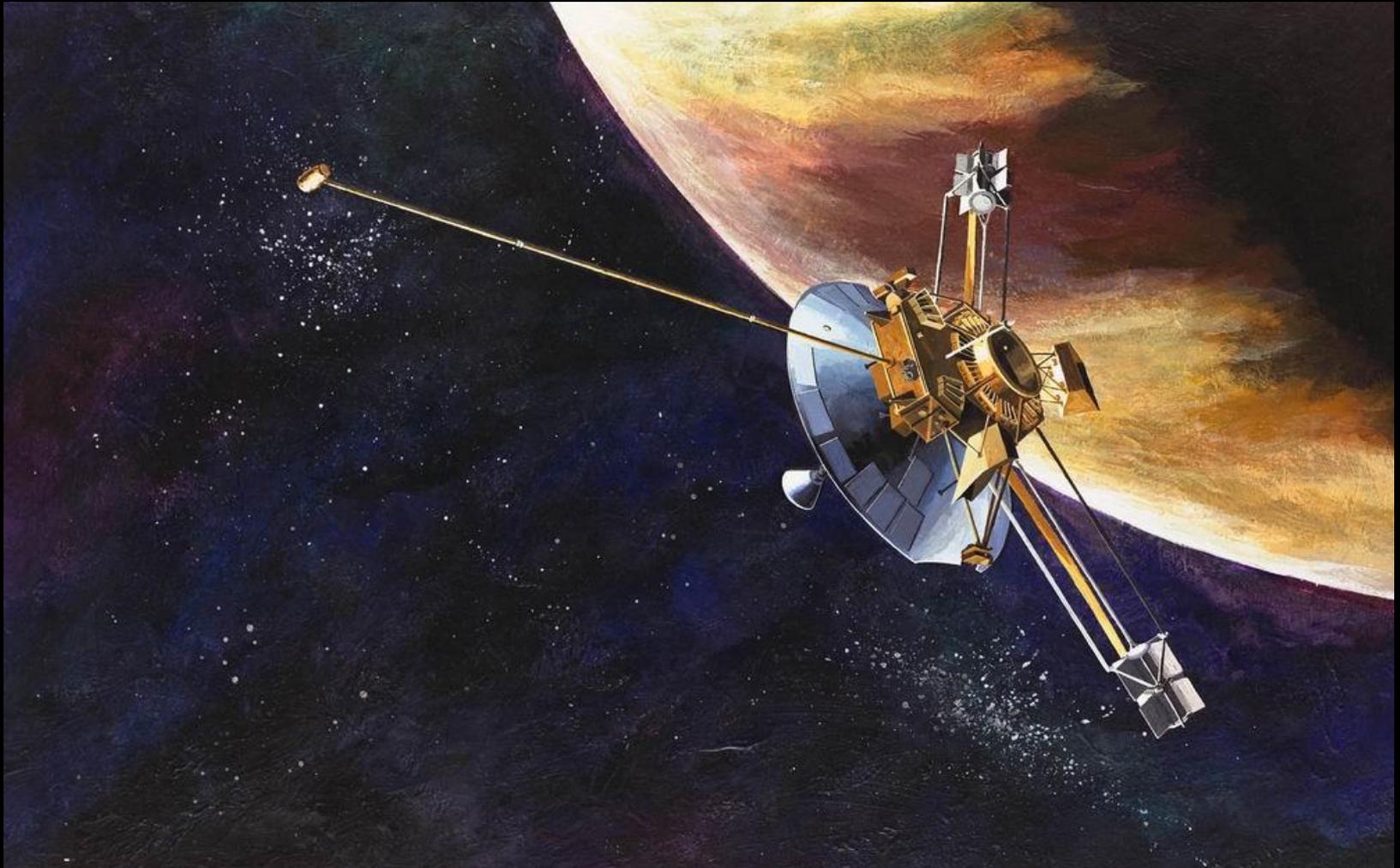




1859: Carringtonova událost



Pioneer 6 až 9



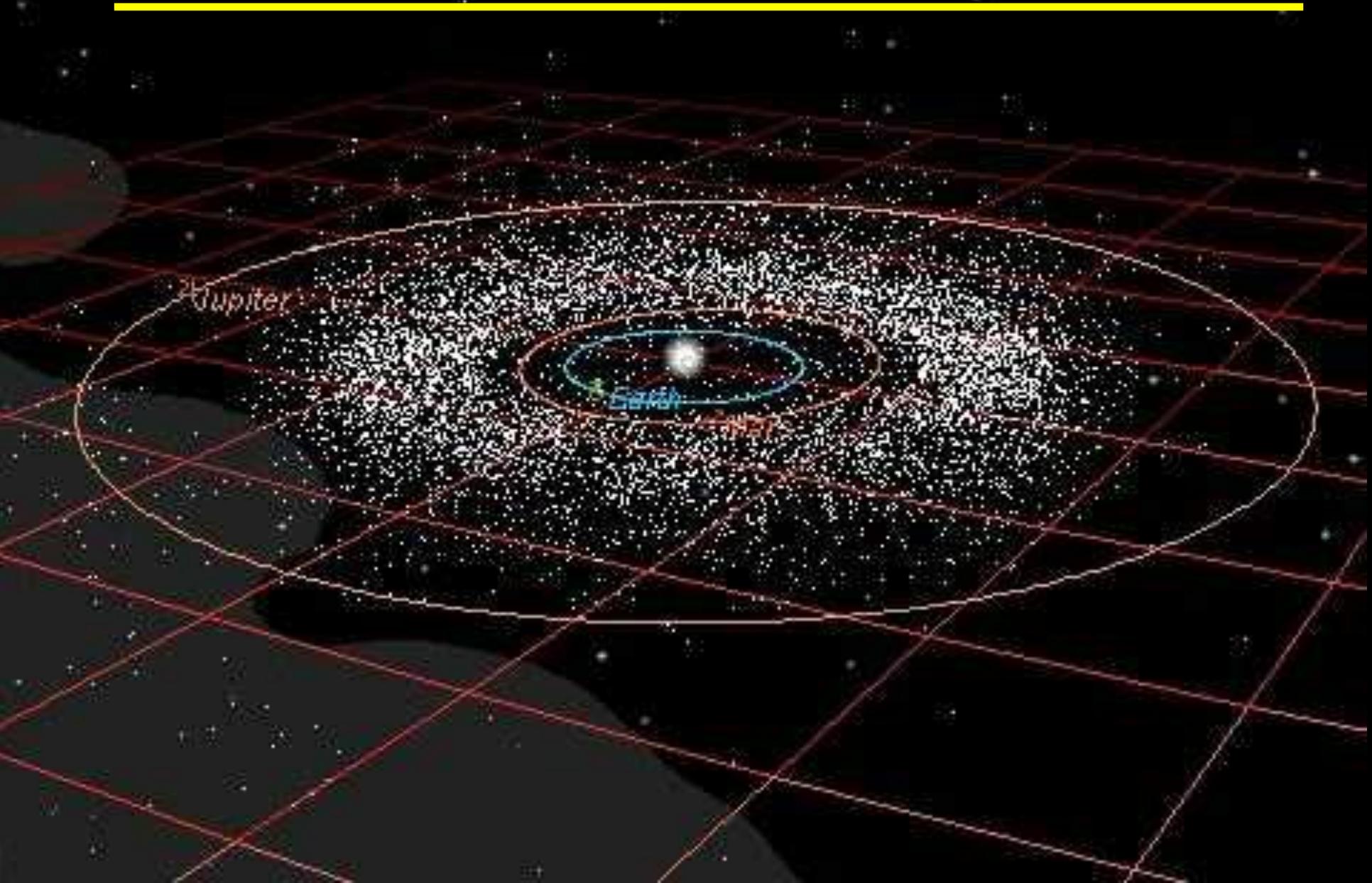
4 AU, Jupiter Galactic Probe

Pioneer F (10) : 2. března 1972



14,36 km/s

Červenec 1972 až únor 1973



Prosinec 1973



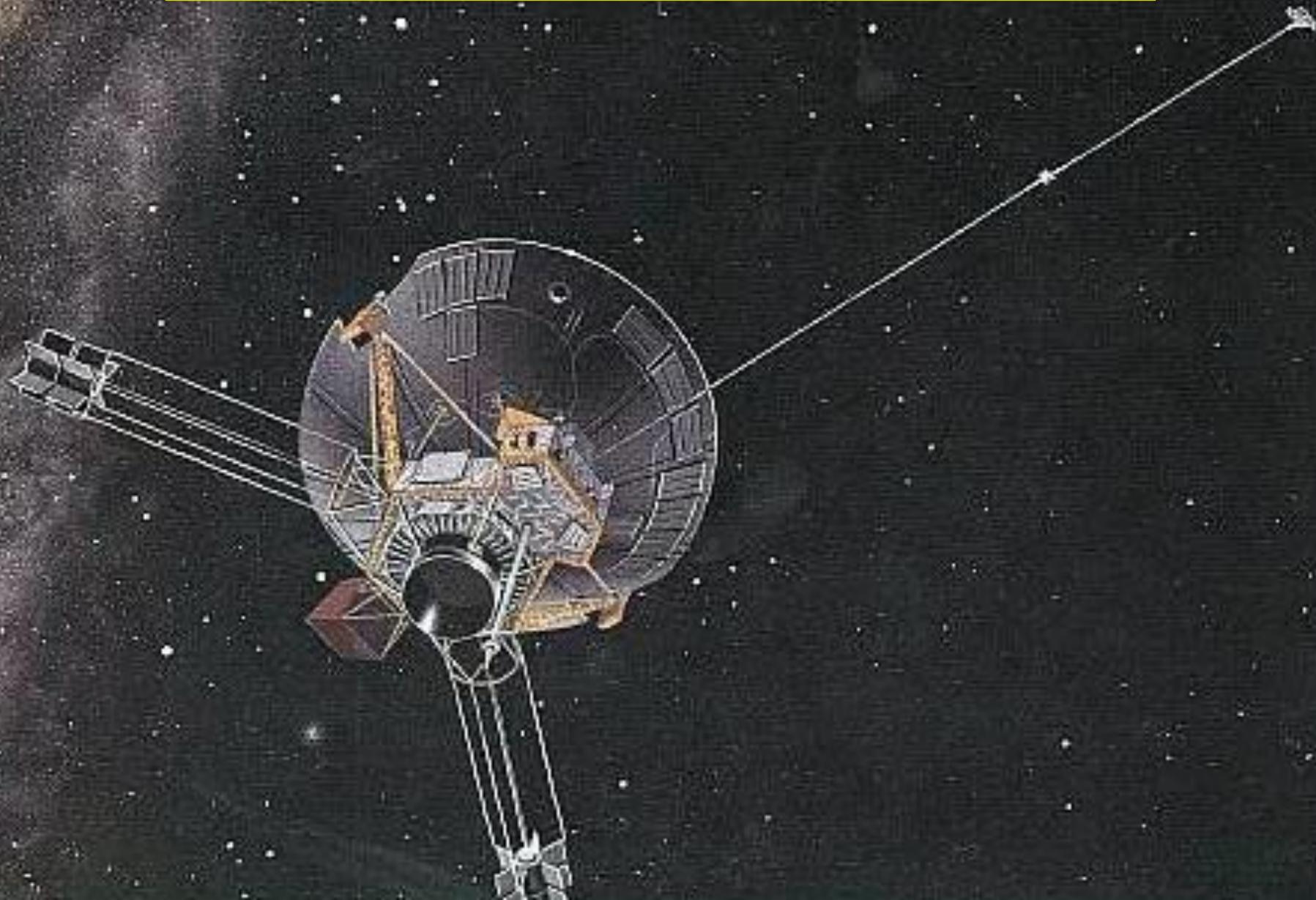
Radiační pásy

Radiace

Io chvost



23. Iedna 2003, 80 AU



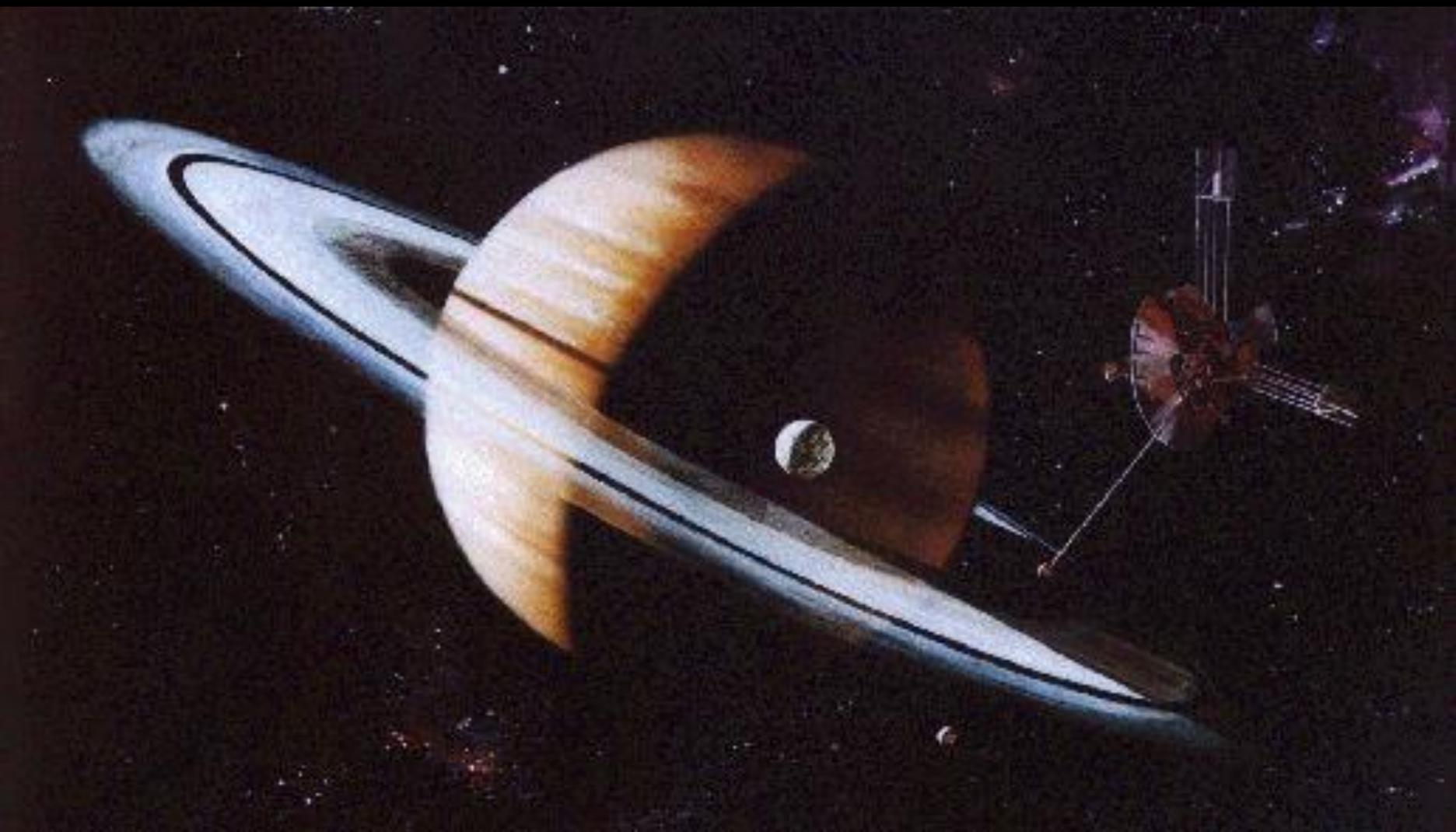
4. dubna 1973



2. prosince 1974



1. září 1979



Uran (1985),
Jupiter/Neptun, 33 komet

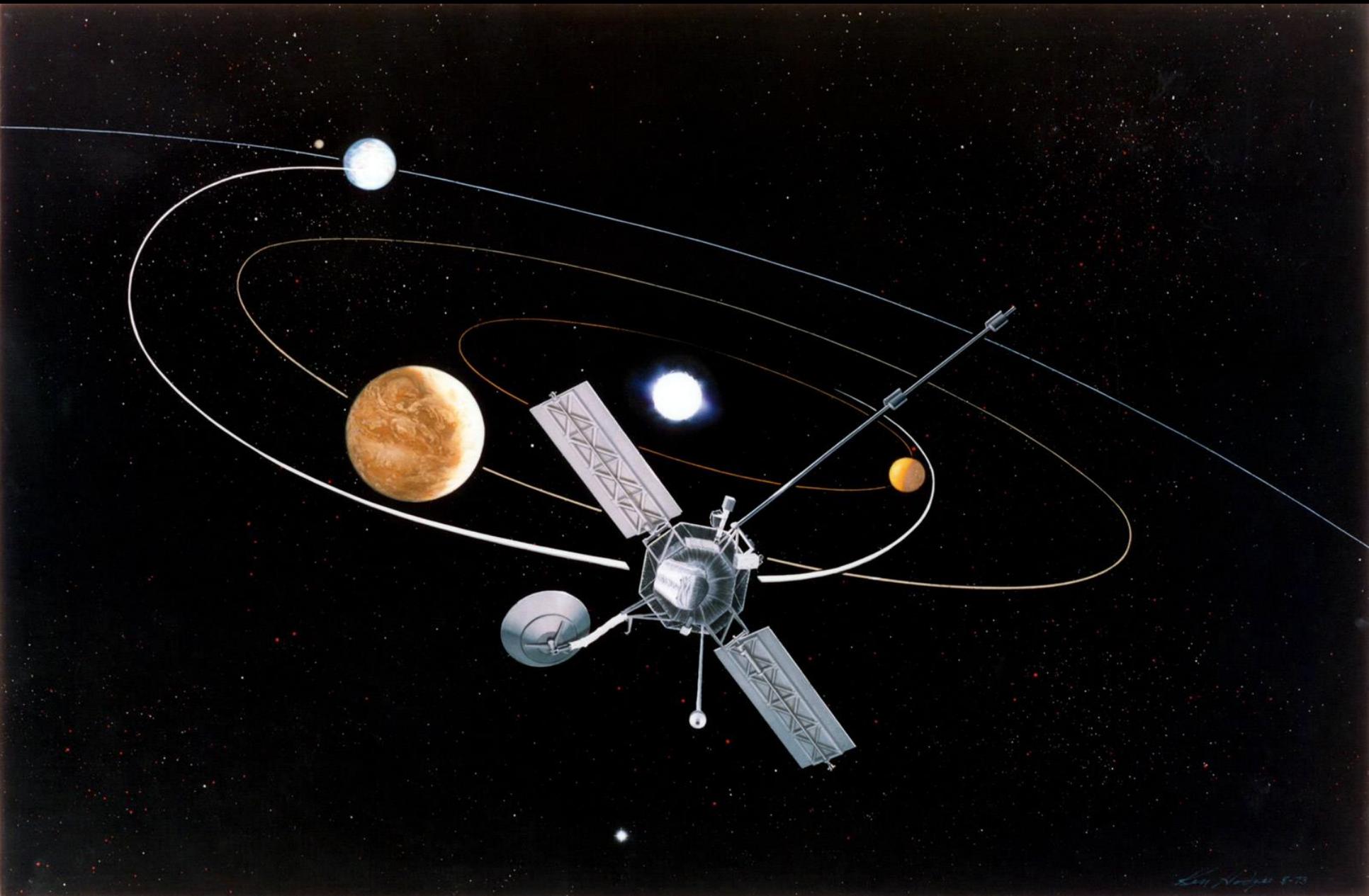


Game Over: 30. září 1995



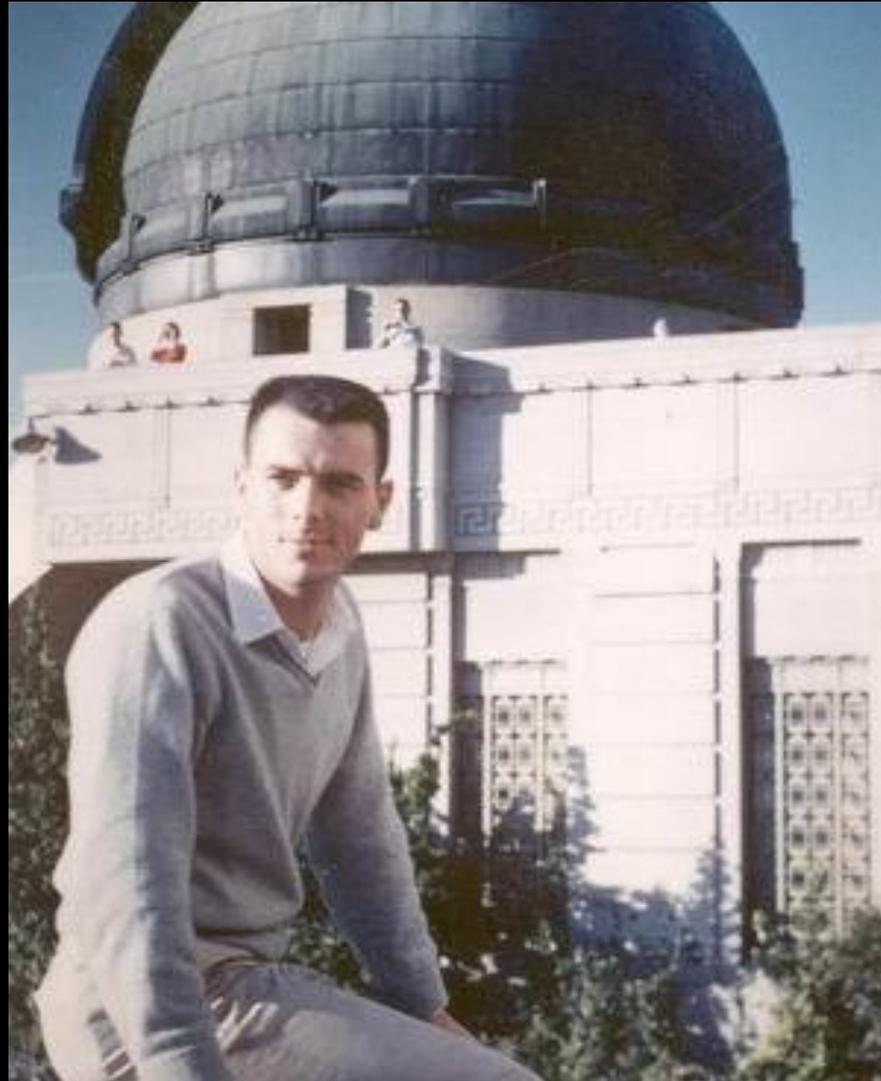
*Nebýt sond Pioneer 10 a 11,
nebyla by žádná mise Voyager.*





Kennerly 8-73

Gary Flandro



1977:

J-S-P

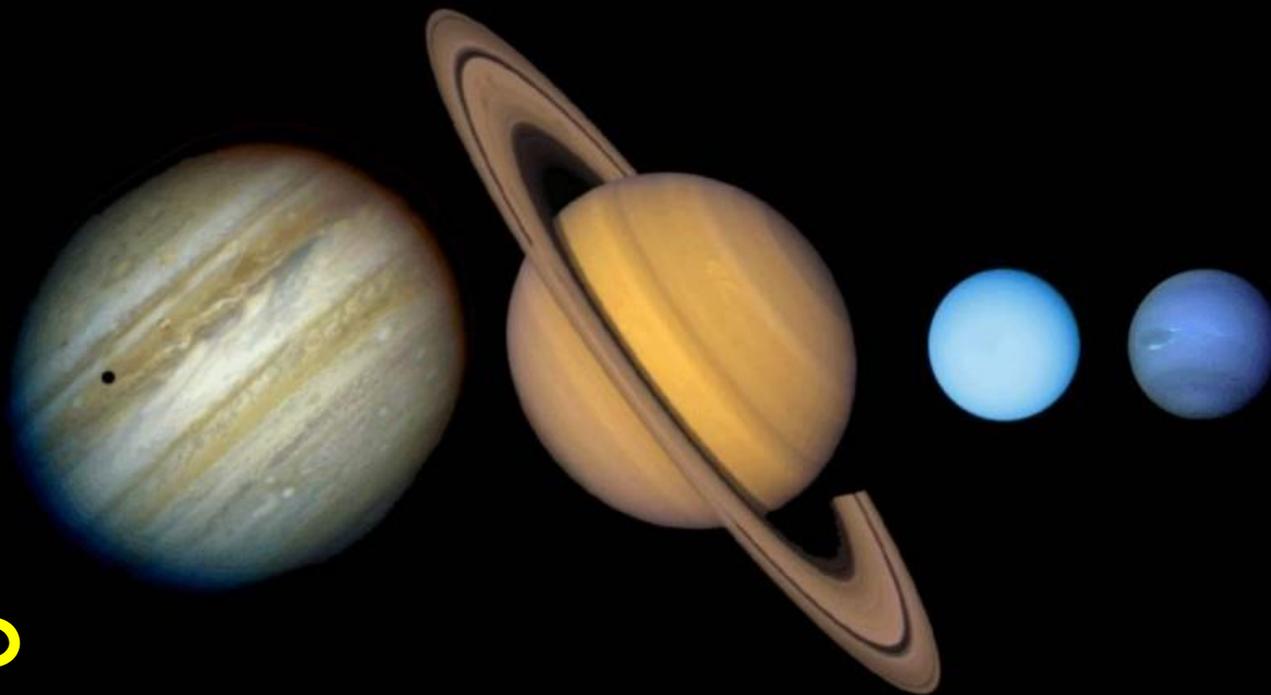
J-S-U-N

1979

J-U-N

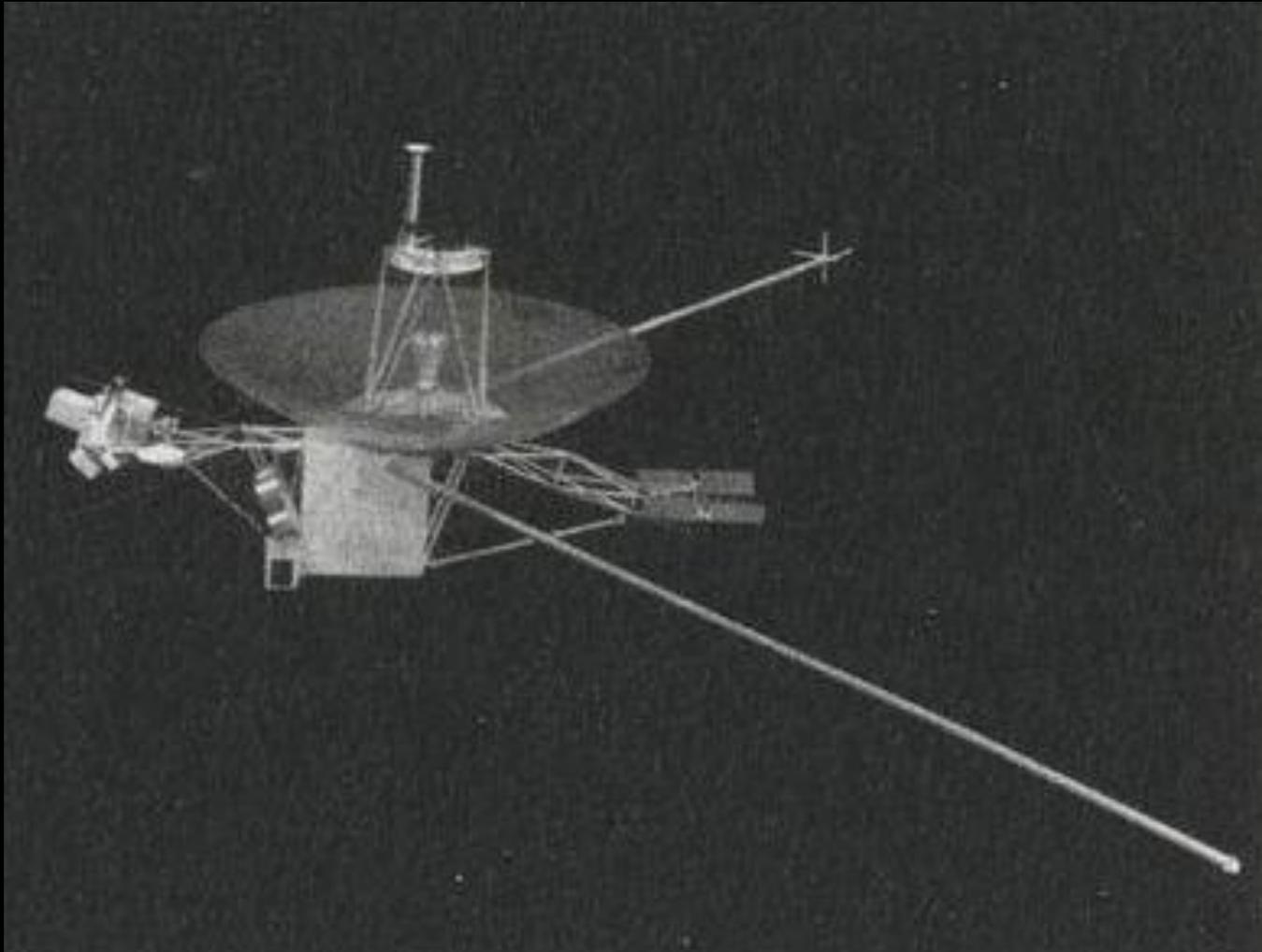
1995:

J + něco



TOPS

Thermoelectric Outer Planet Spacecraft

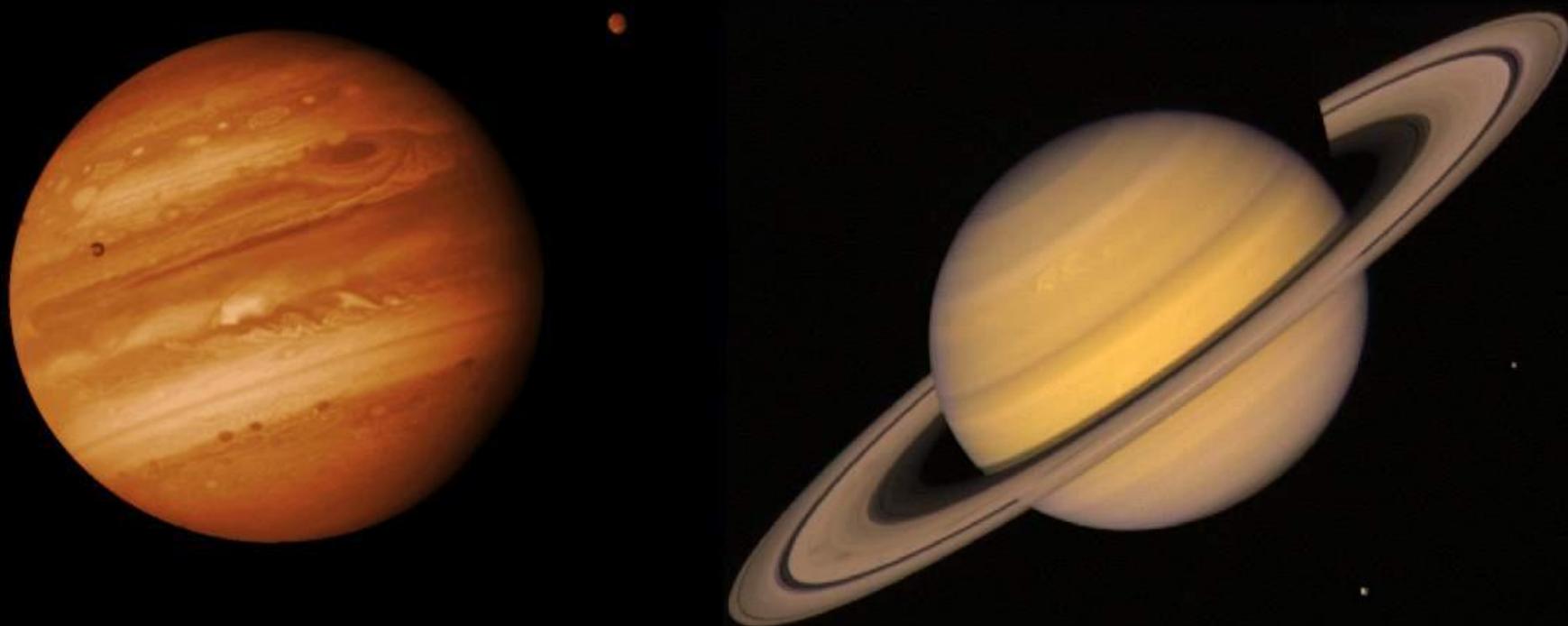


Prosinec 1971 zrušeno

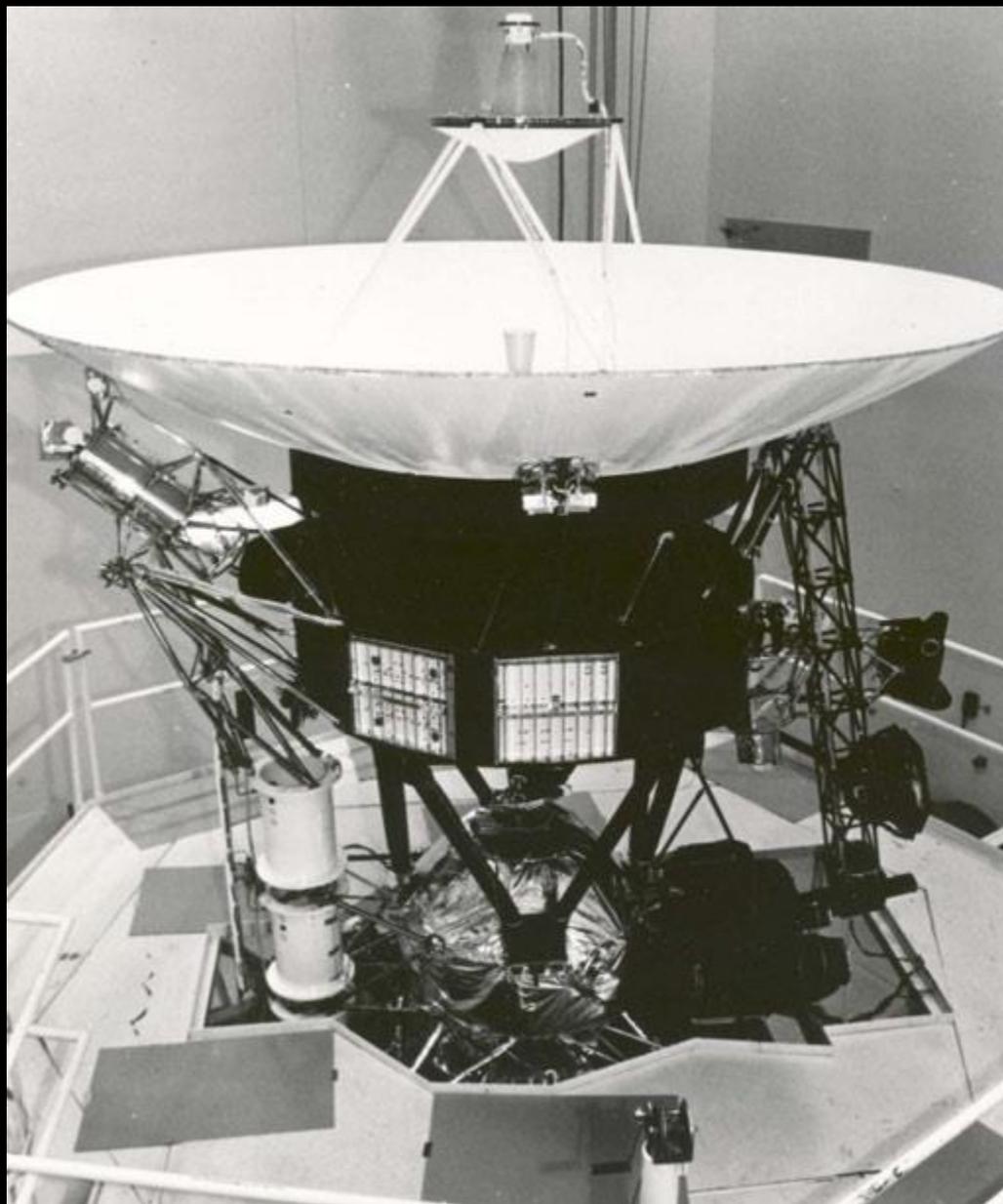


Mariner Jupiter-Saturn

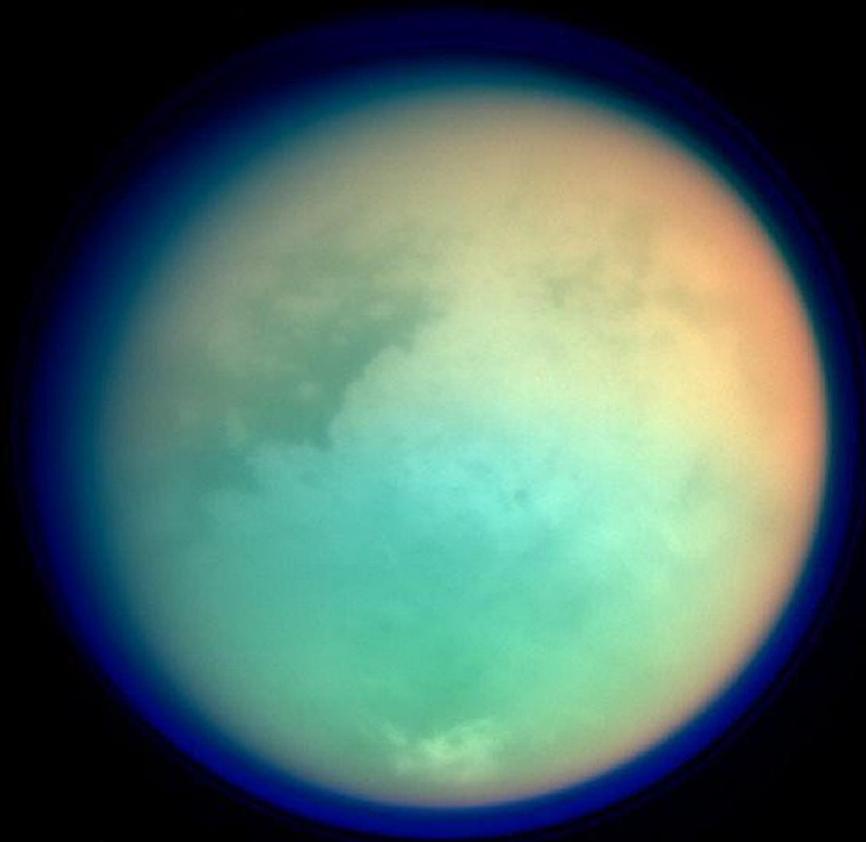
Stavba na vlastní půdě - JPL NASA.



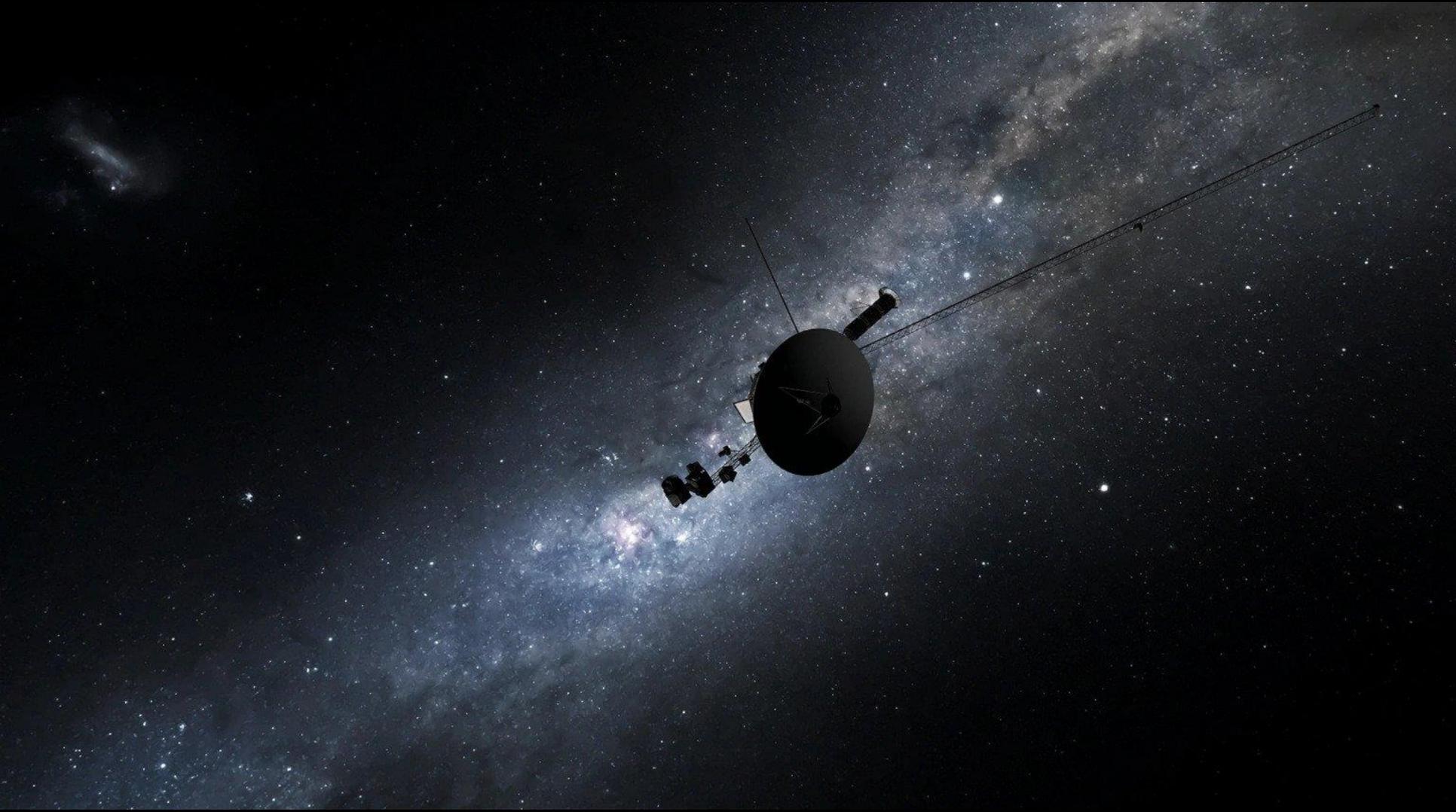
1000x radiace, 10000 scénářů



Io - Titan



Nomad? Pilgrim? Planet Trek?



Pásmo S vs. X, JS vs. JSUN



5. září 1977



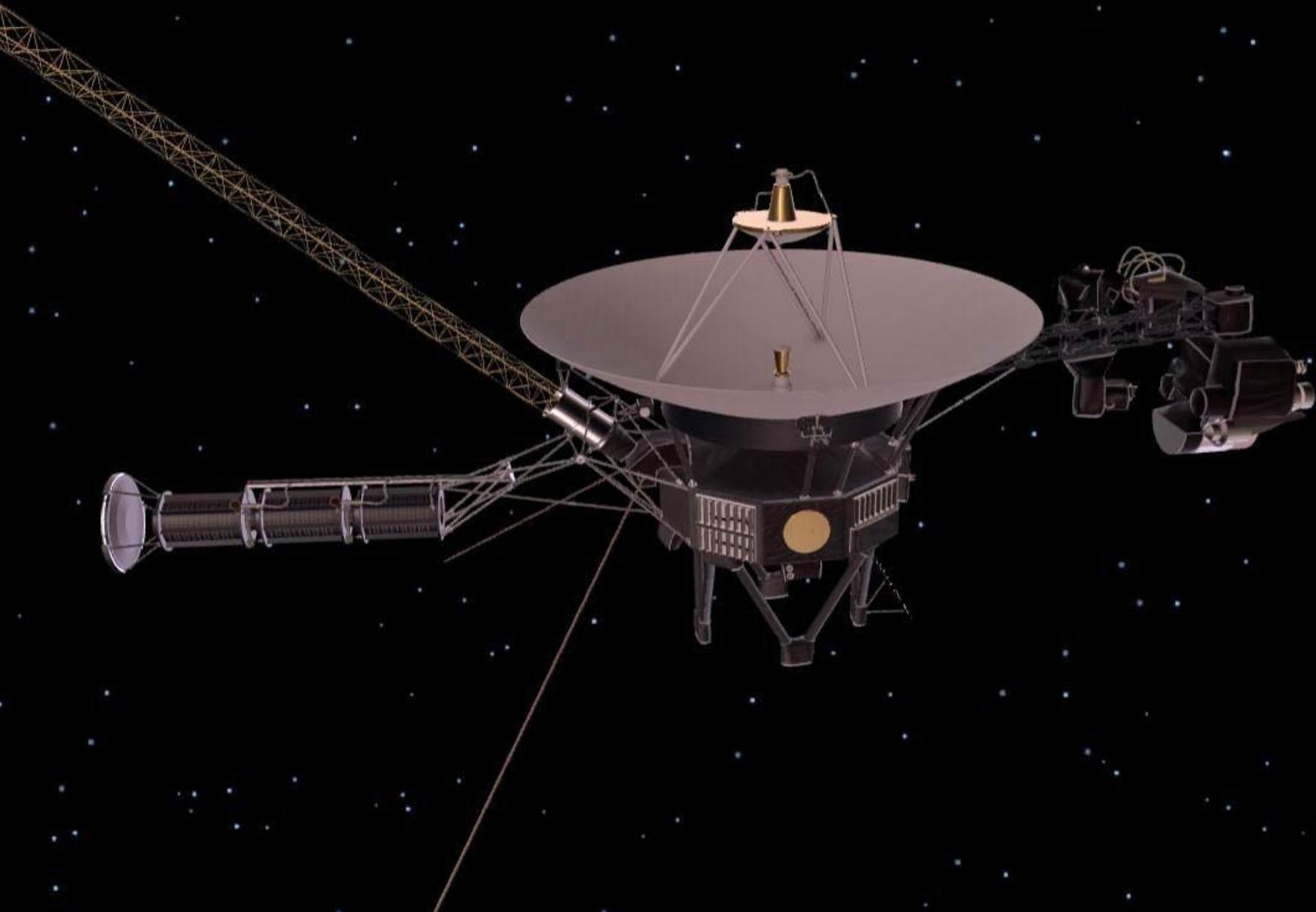
3,4 sekundy paliva

18. září 1977

11,66 mil. km



18. prosince 1977



23. února 1978

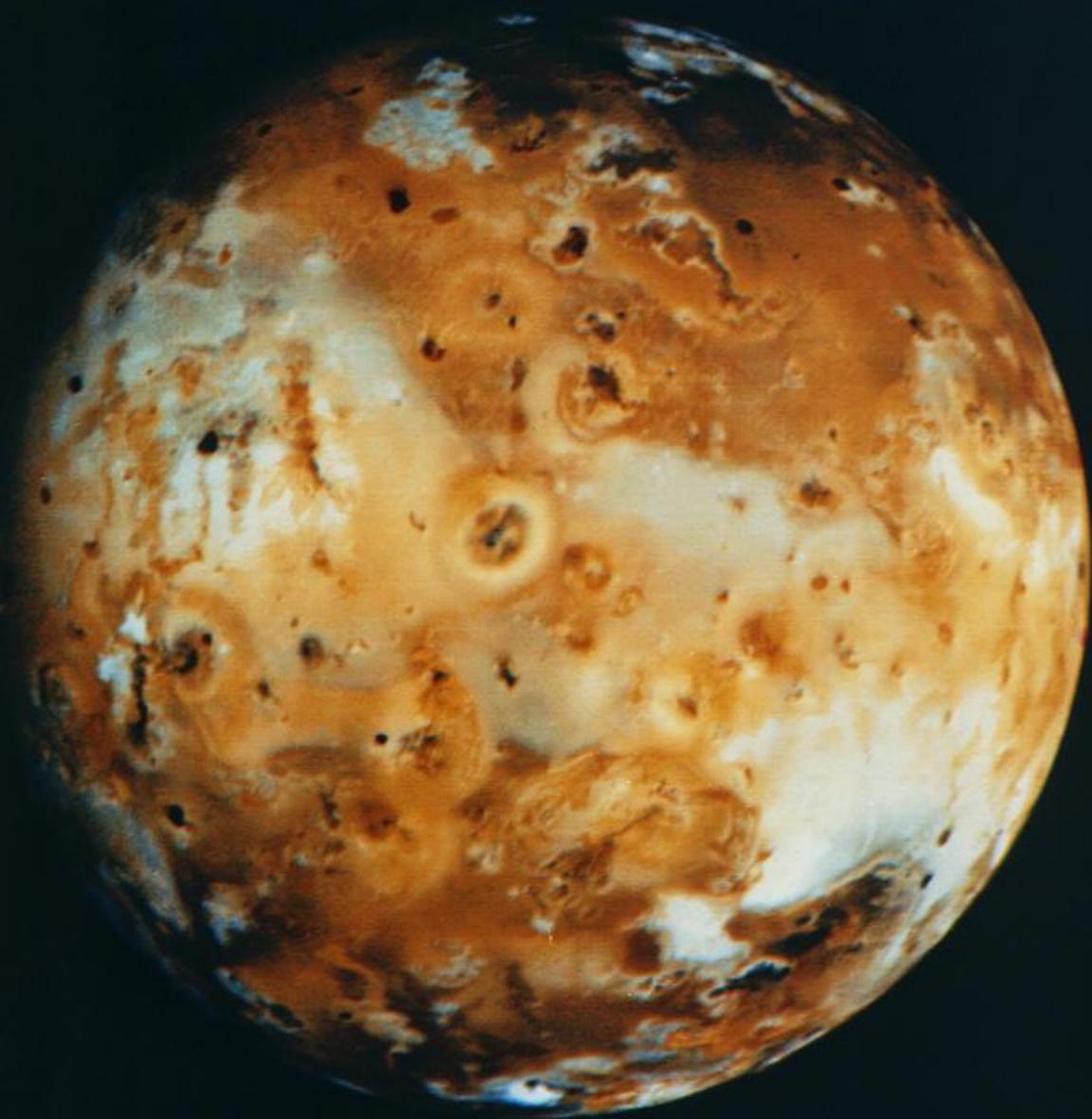


13. února 1979



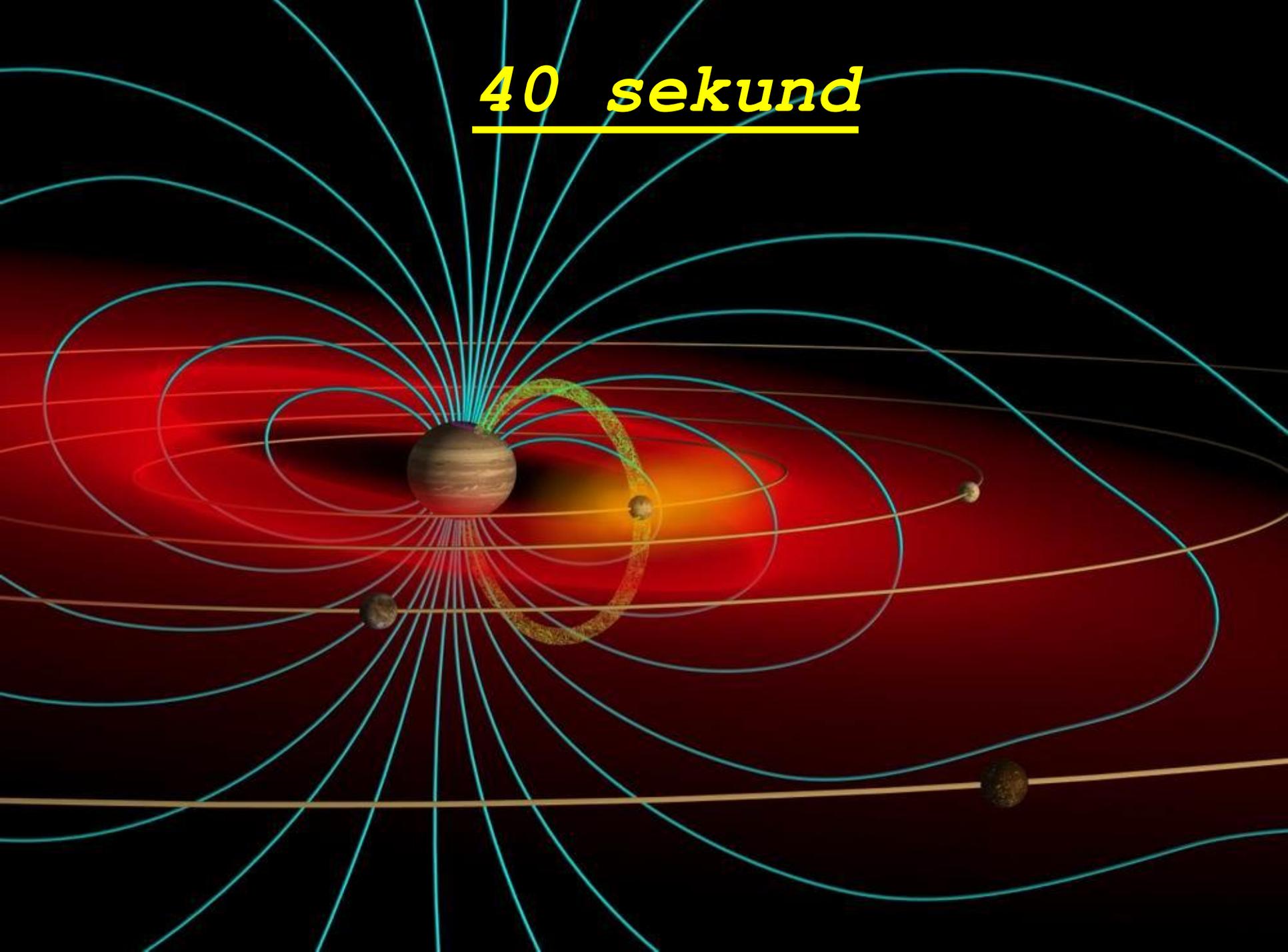
Rázová vlna

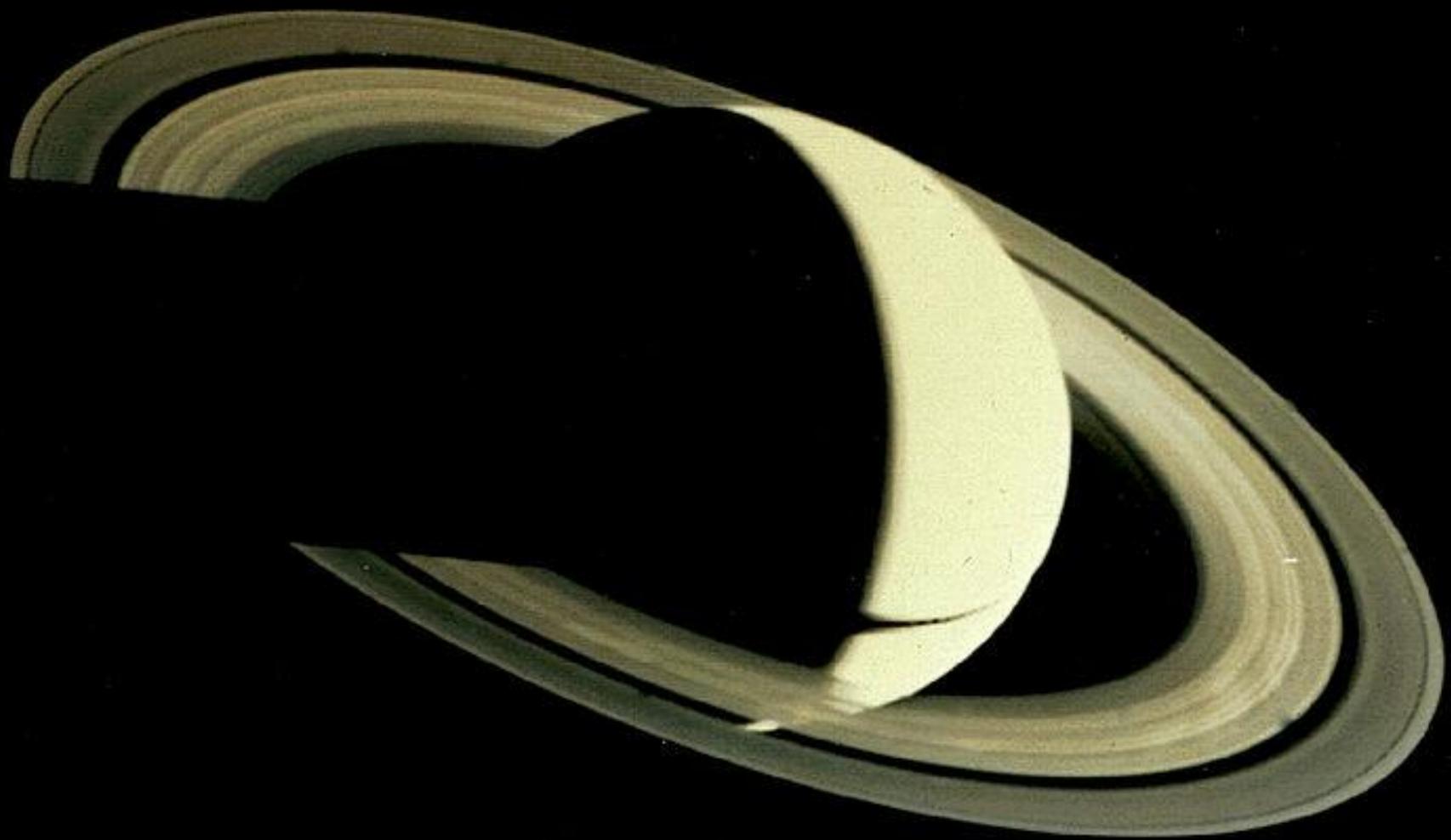




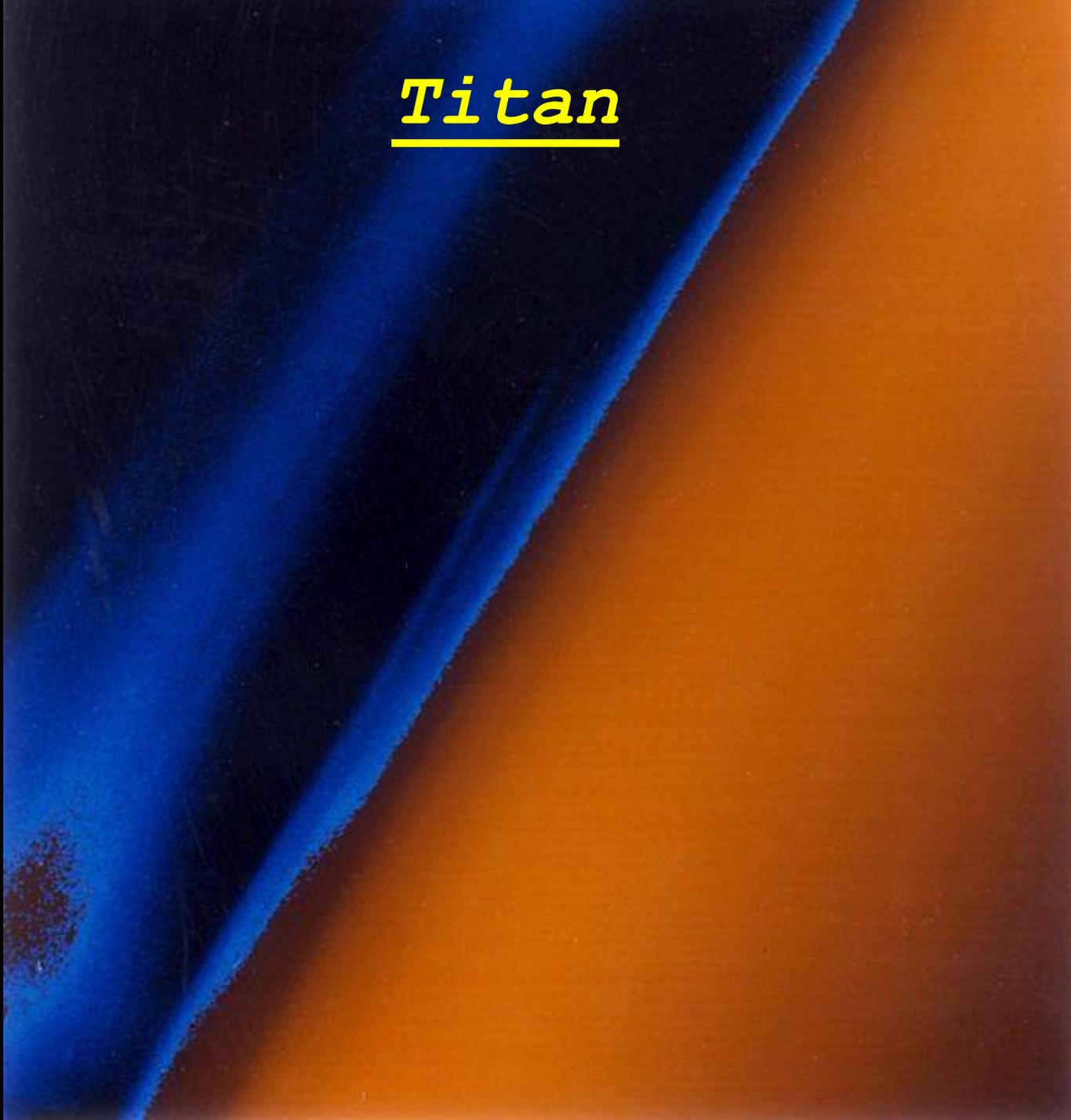


40 sekund





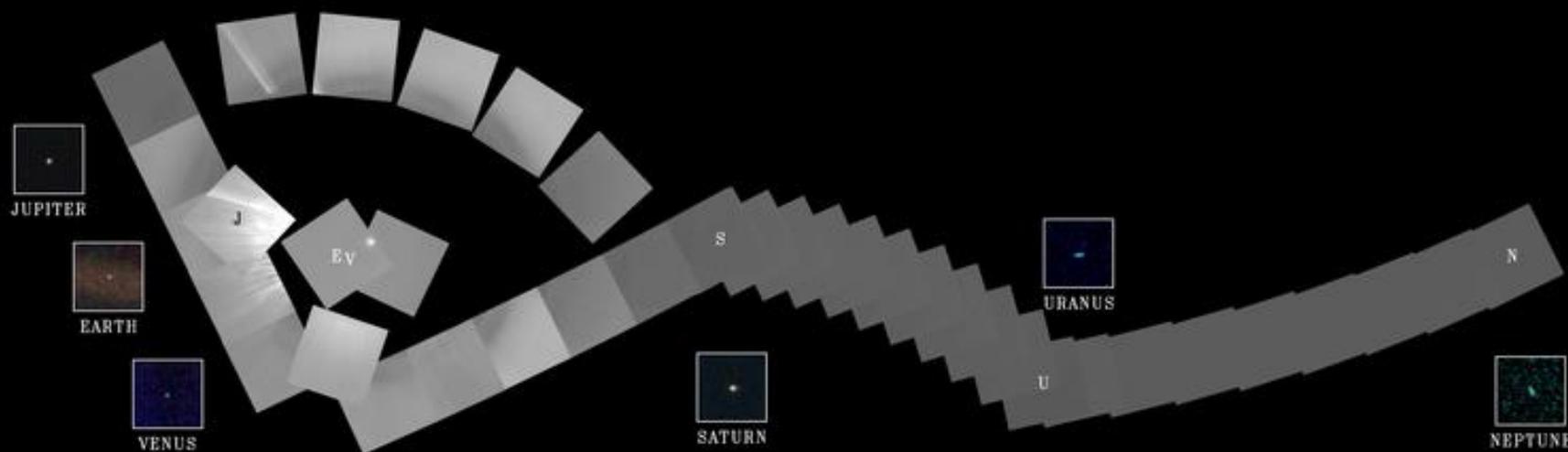
Titan



Mimas

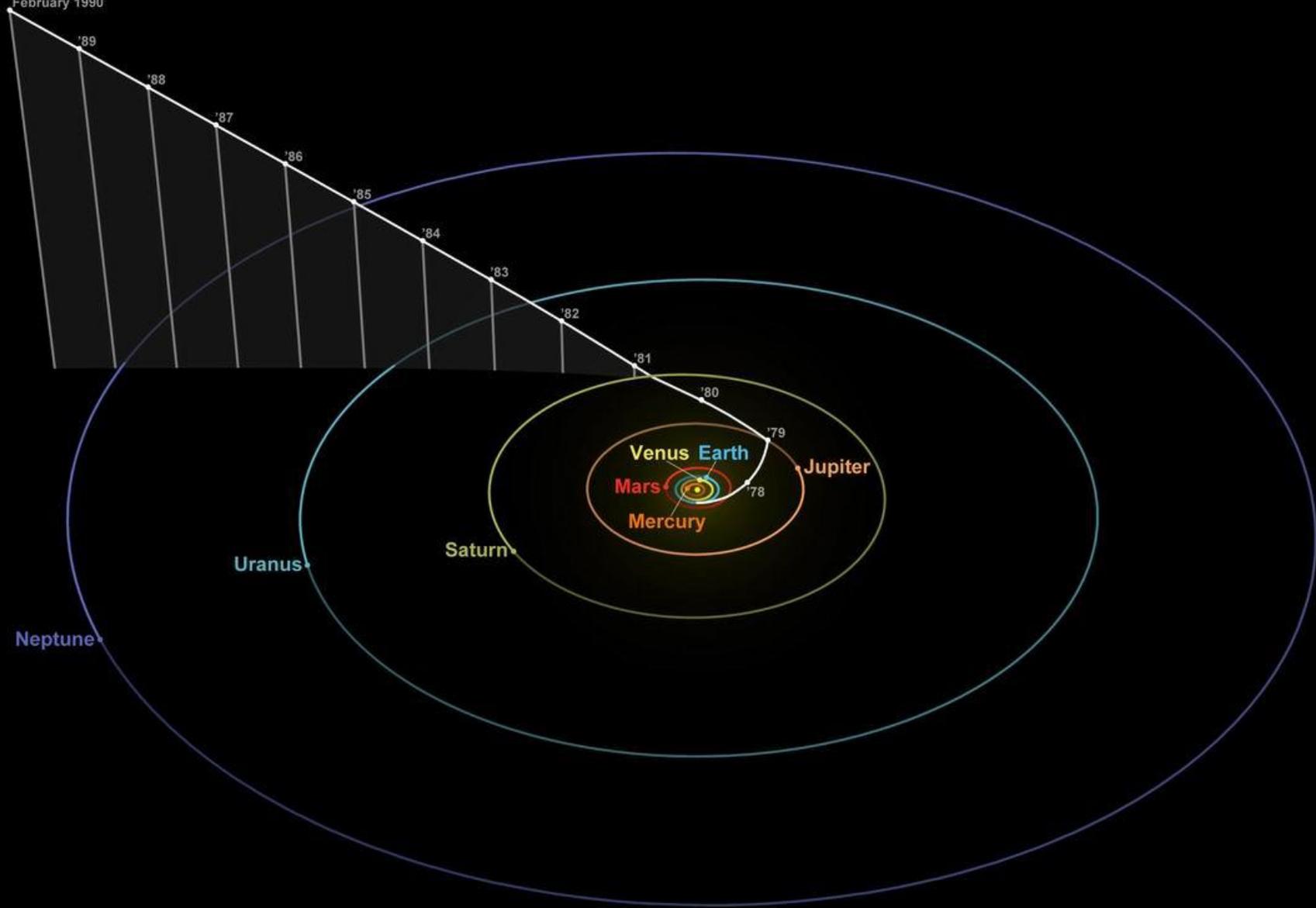


Rodinný portrét – 14. února 1990

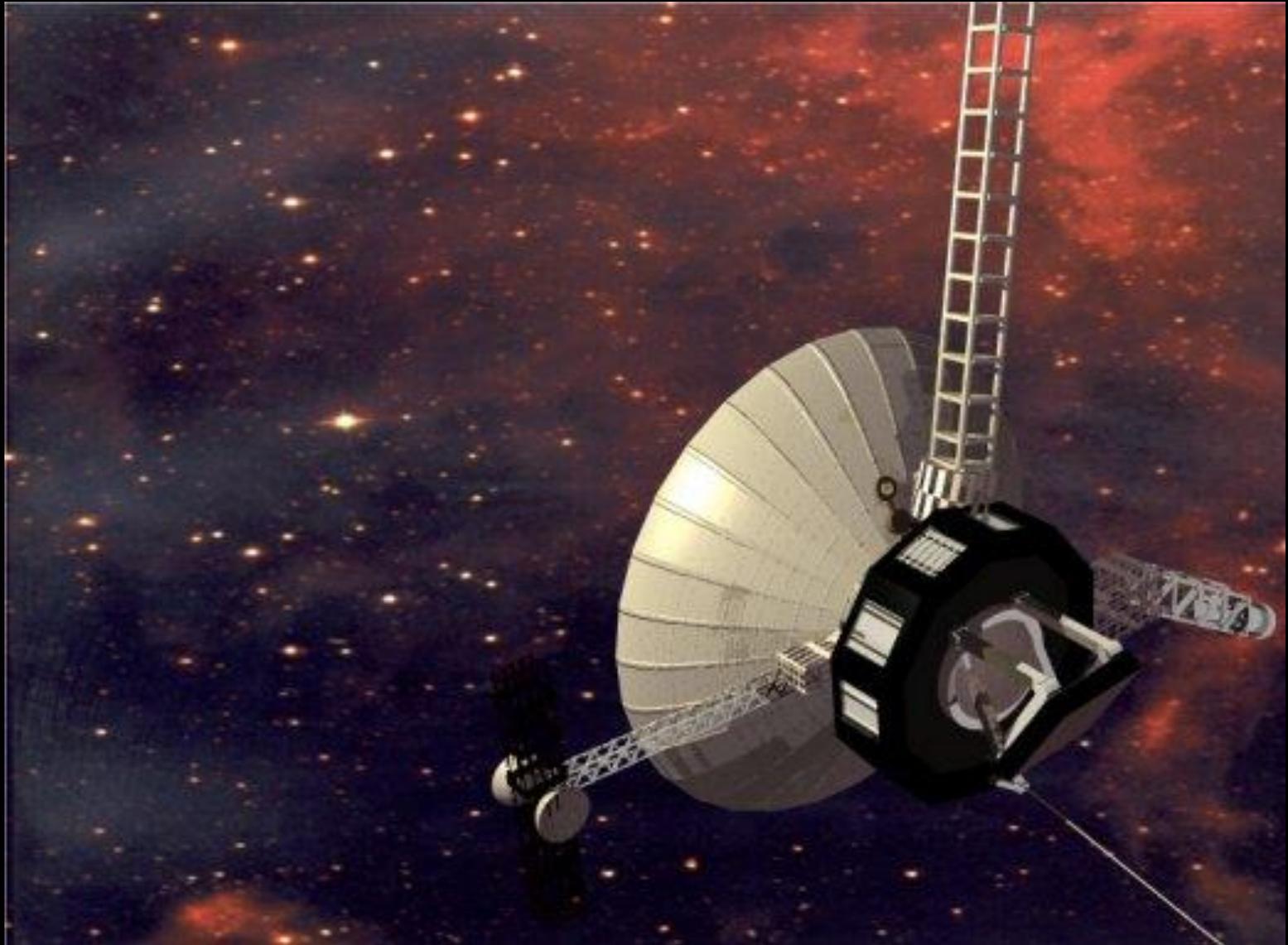


Merkur, Mars, Pluto

Voyager 1
February 1990



Srpen 2012



Tři podmínky



Dramatický nárůst střetů s vysokoenergetickými částicemi.



Dramatický pokles střetů s nízkoenergetickými částicemi.



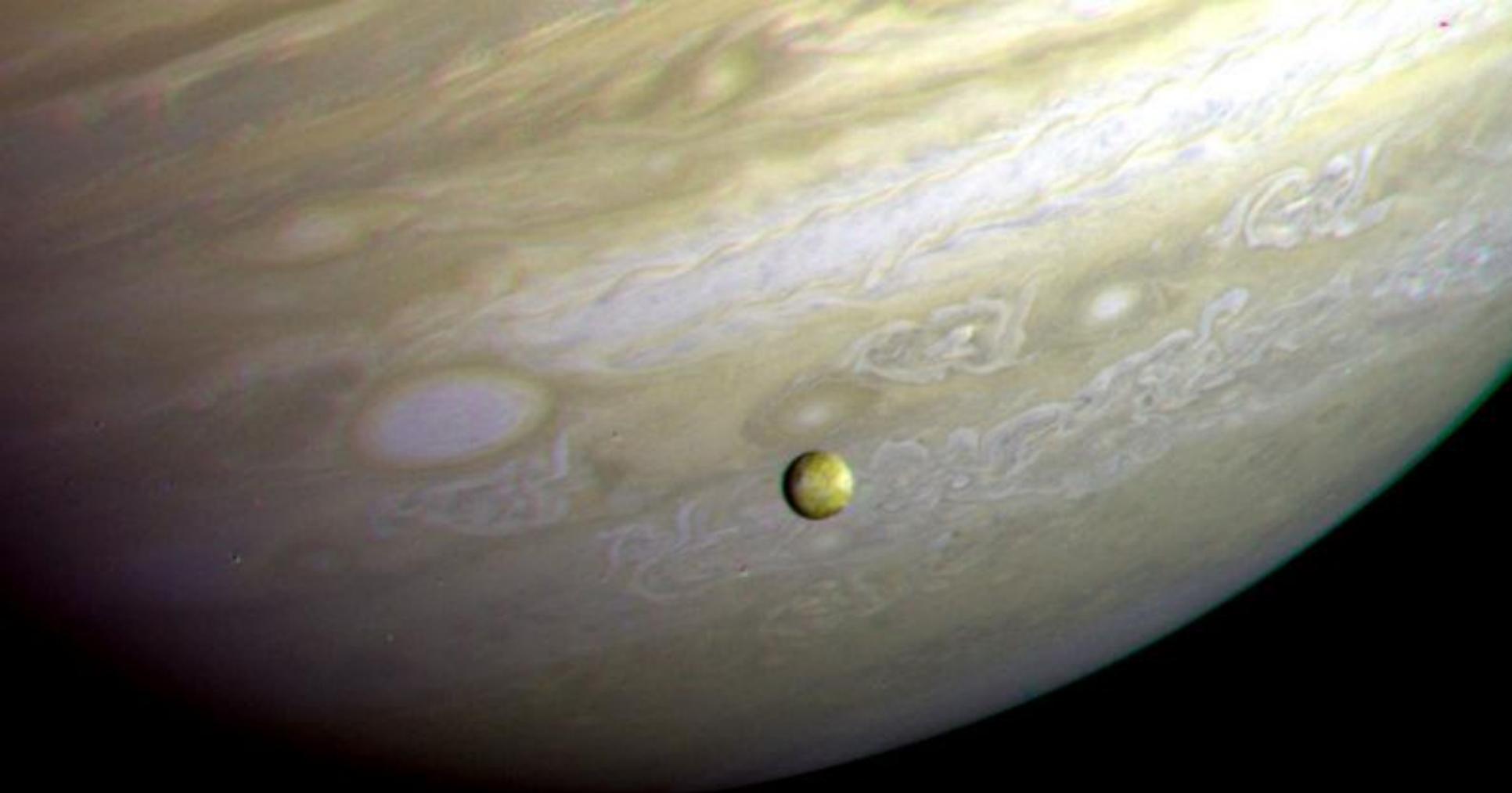
Změna tvaru magnetického pole.

NUMBER OF TIMES
VOYAGER 1 HAS
LEFT THE SOLAR SYSTEM

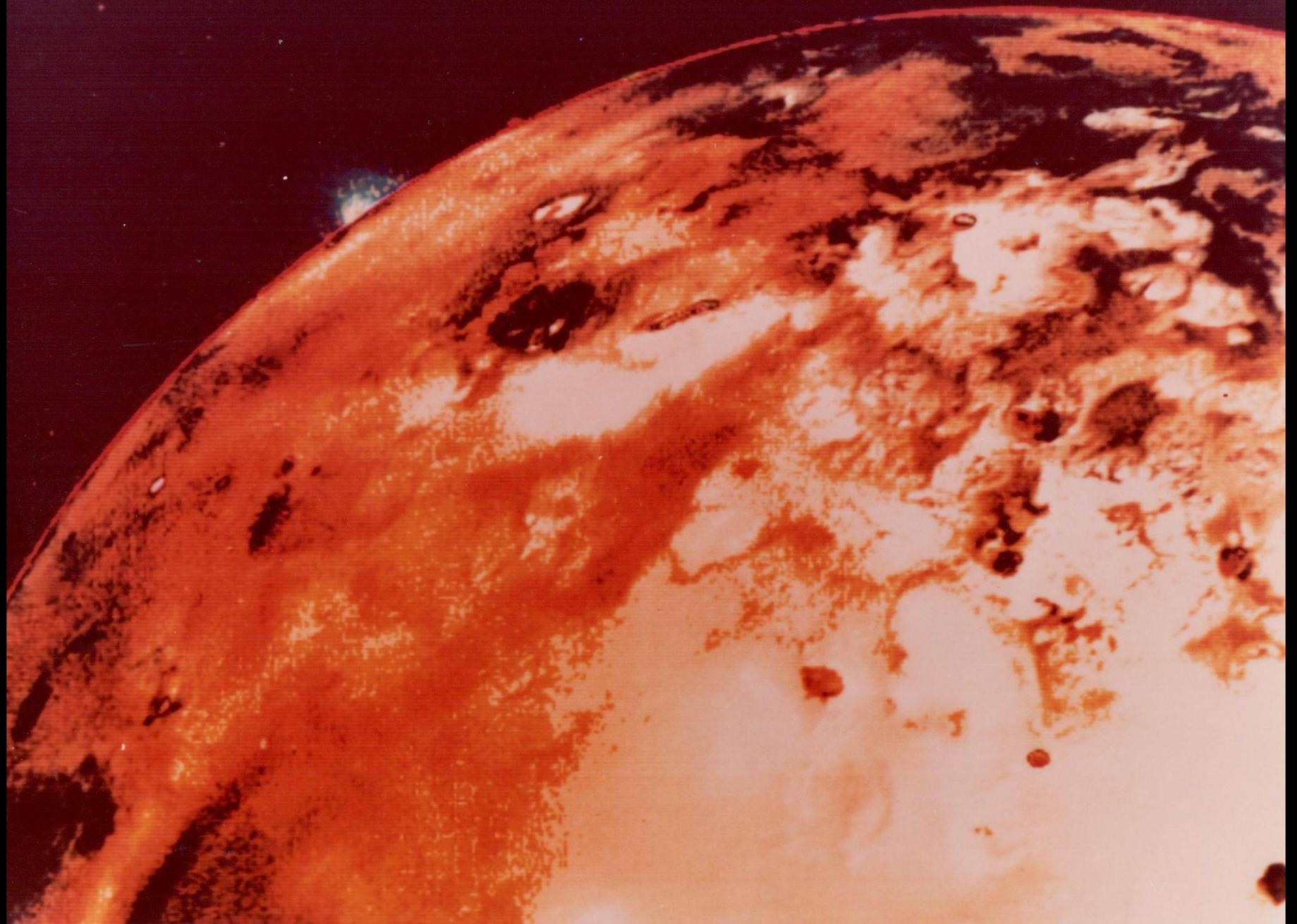
||

20. srpna 1977





Škubnutí, hvězdné čidlo,
signál, přístrojová plošina,
palivo...





Zaseklá plošina



Omylem objevený Tethis

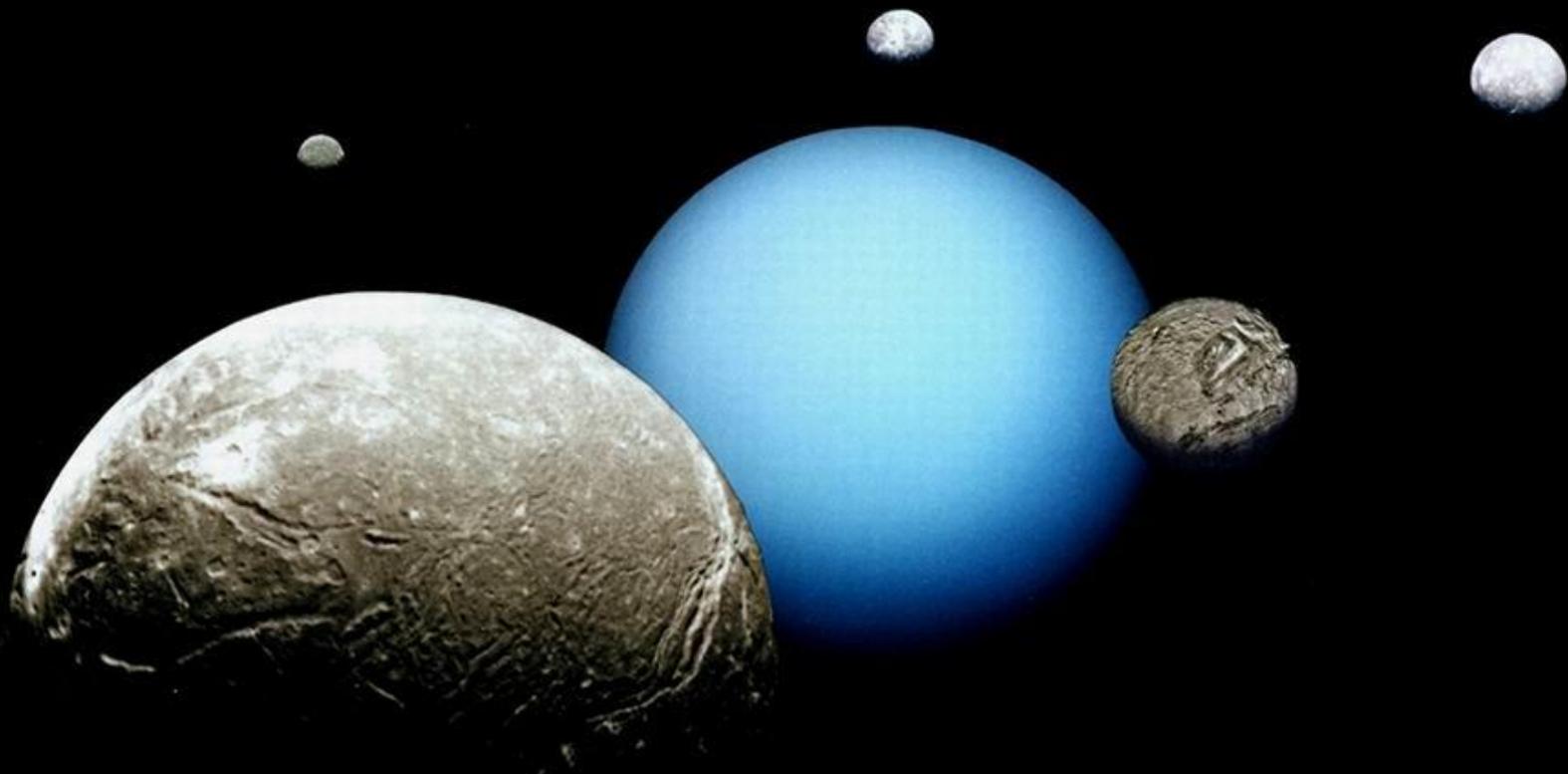
24. ledna 1986



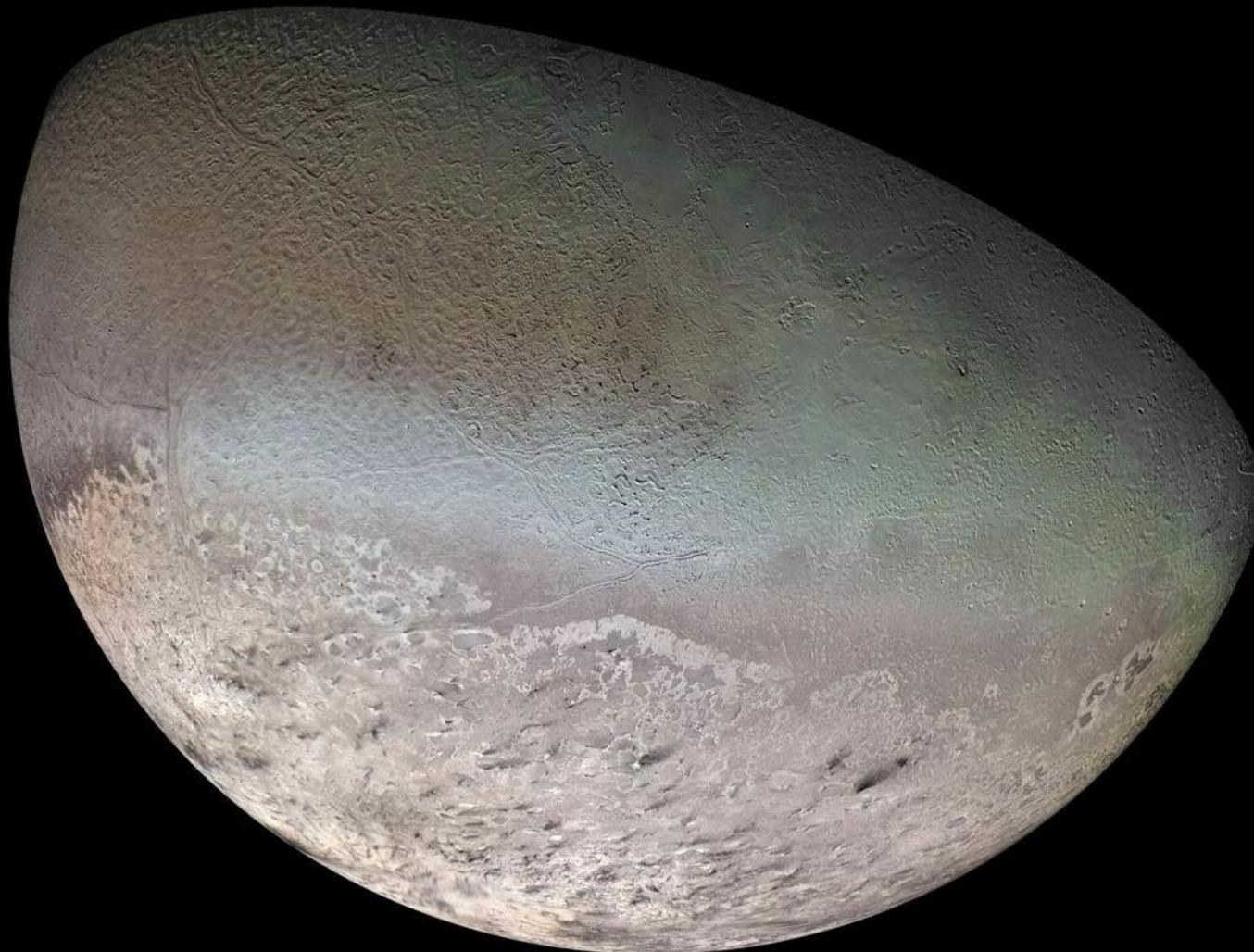




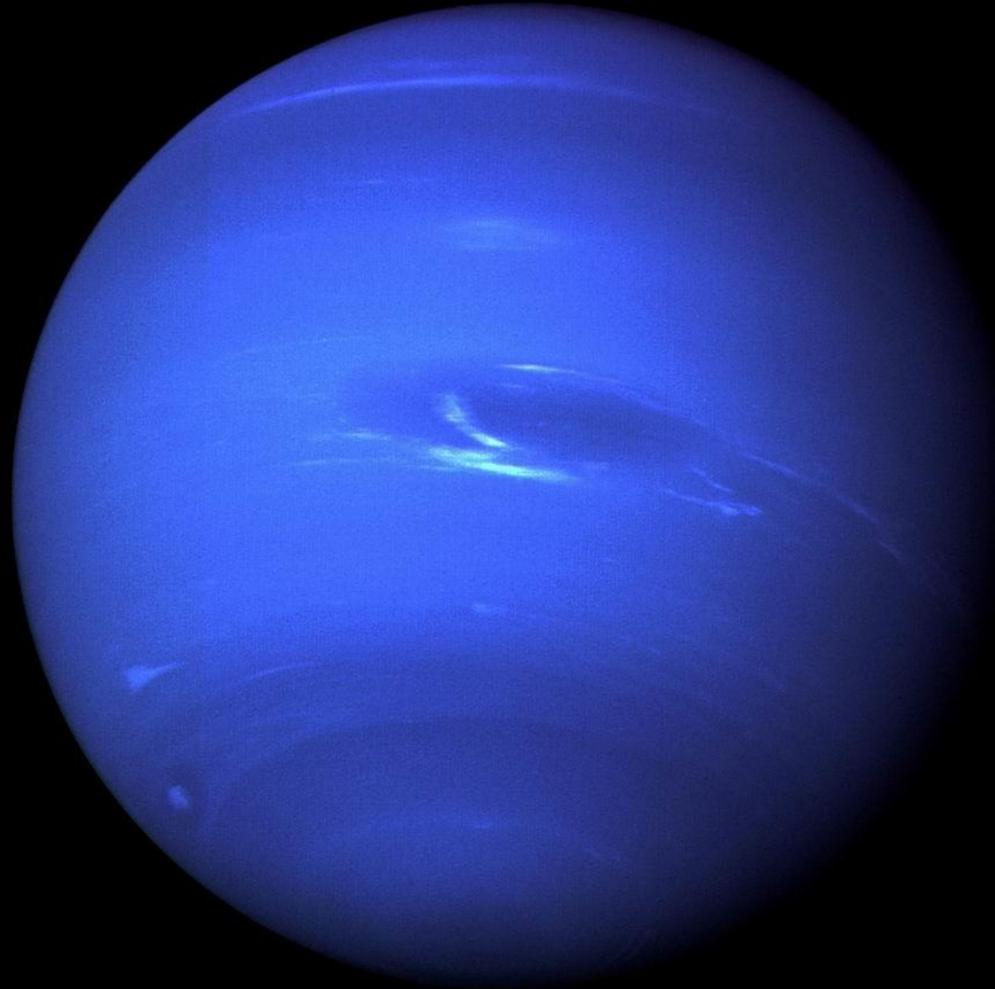
Ze 4 na 14 měsíců



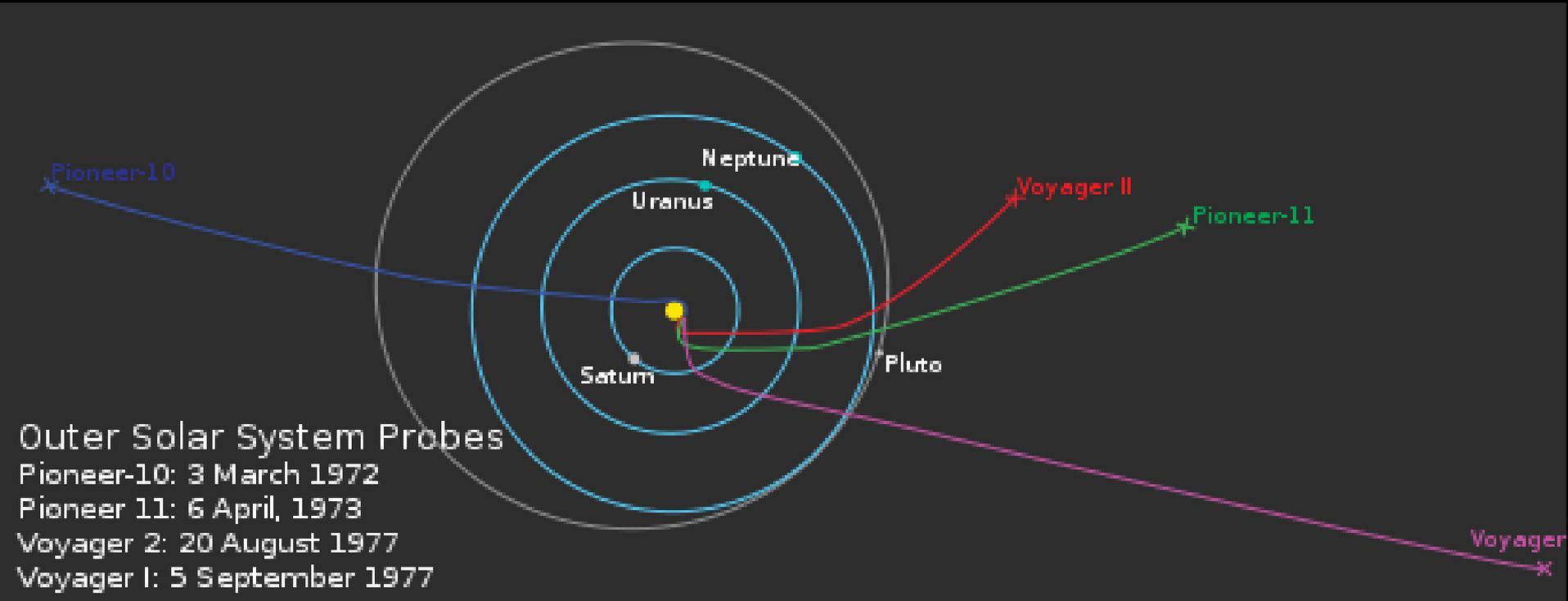
Triton - největší?



Neptun

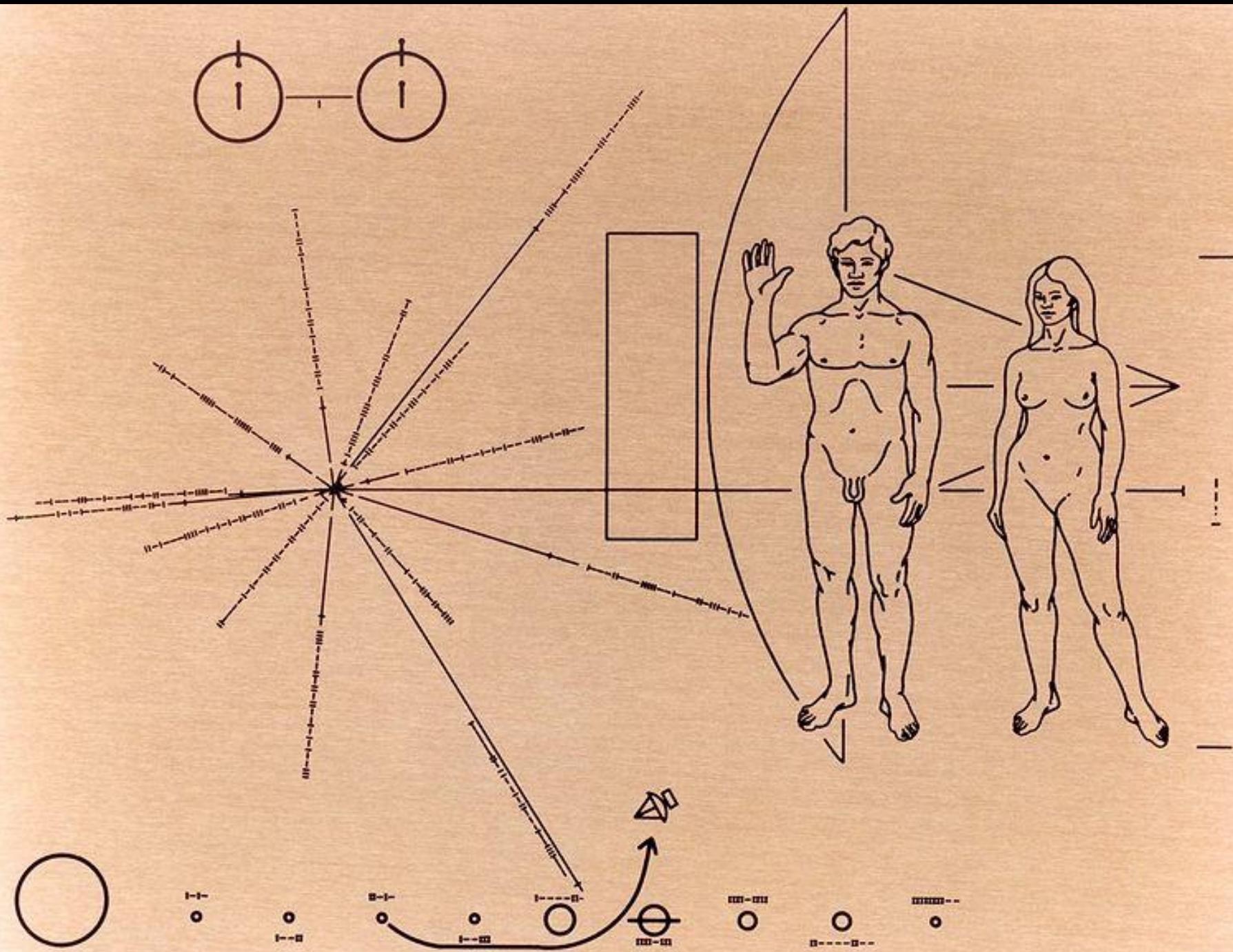


Voyager 1: 159 AU



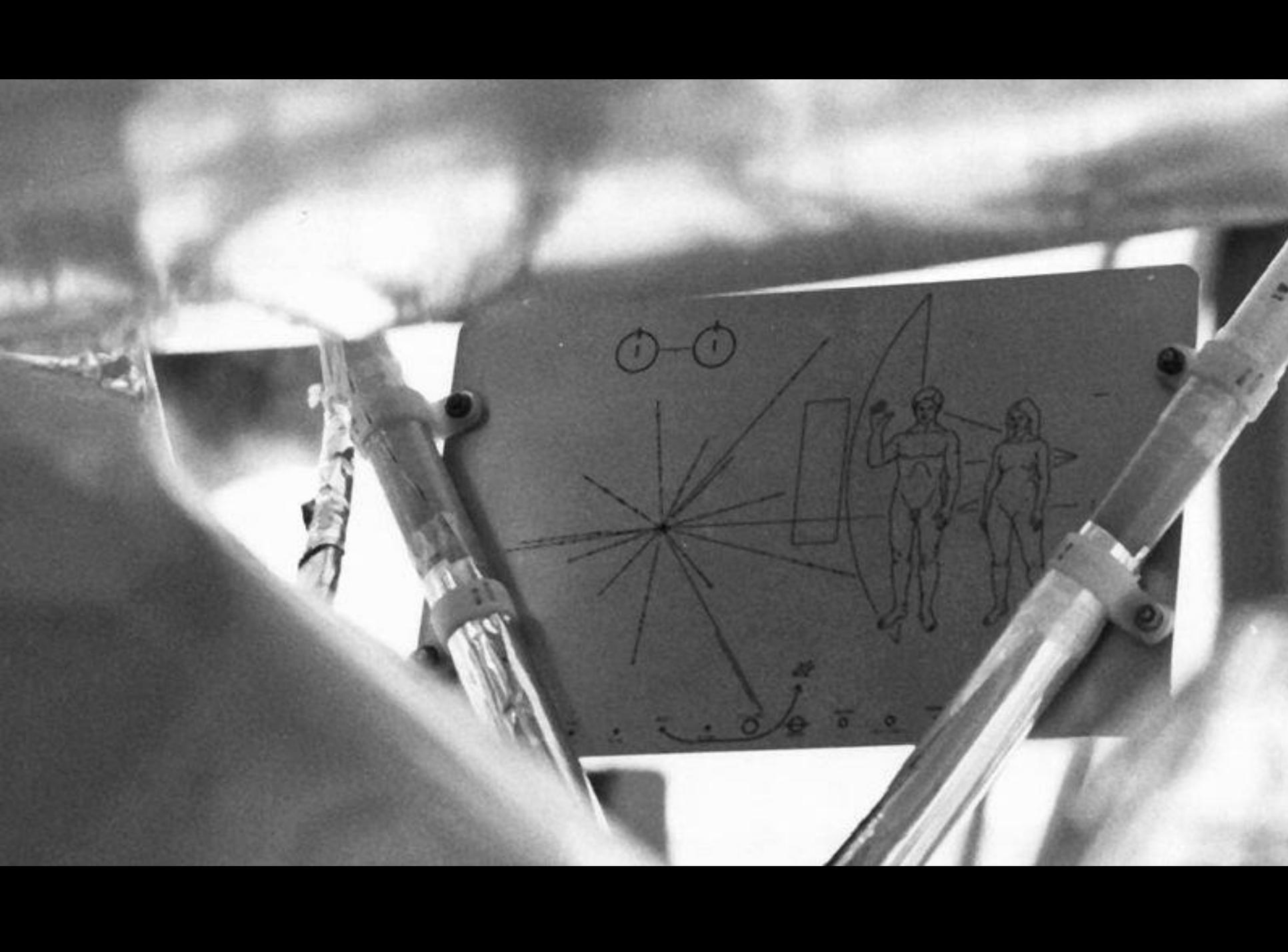
Voyager 2: 132 AU

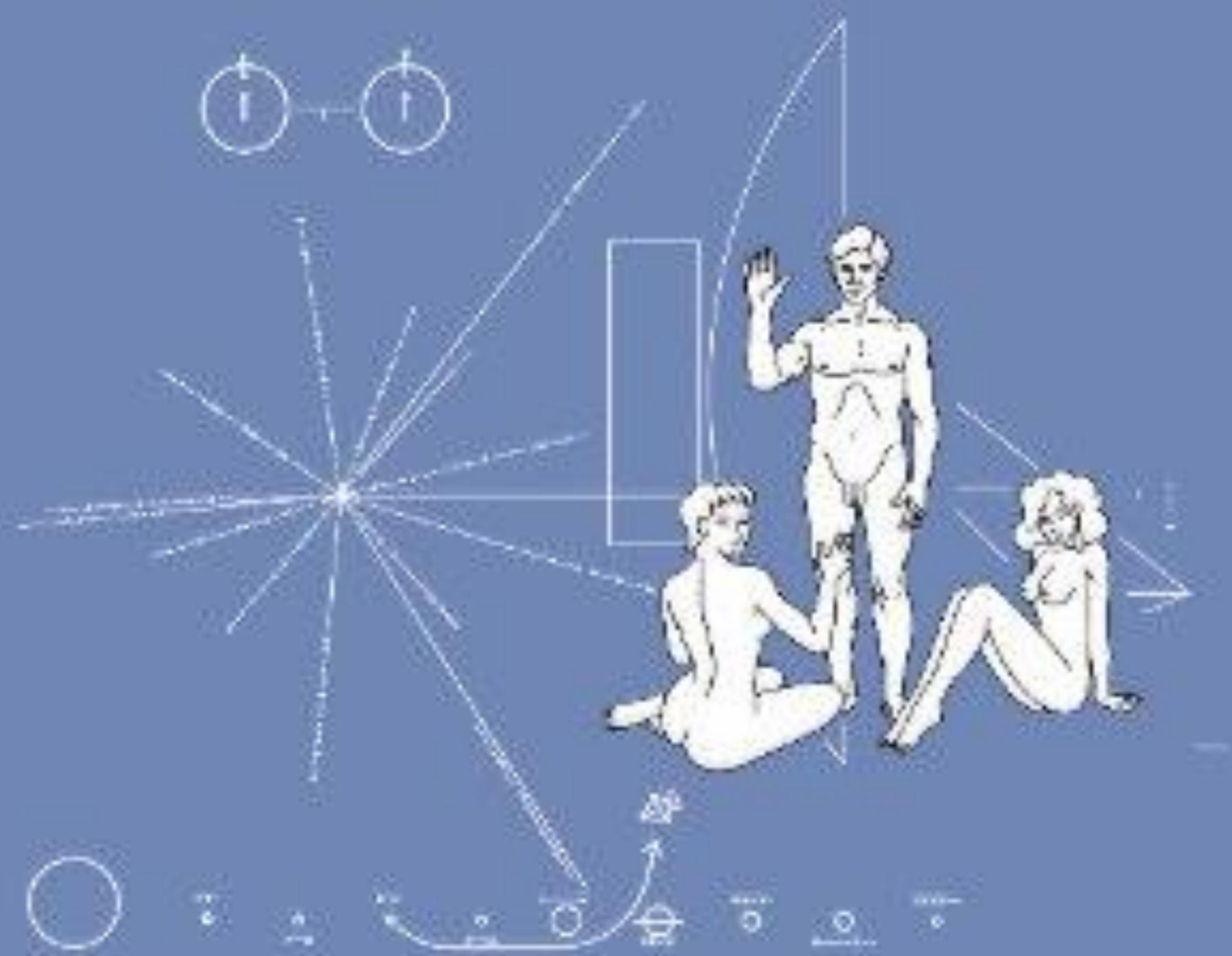


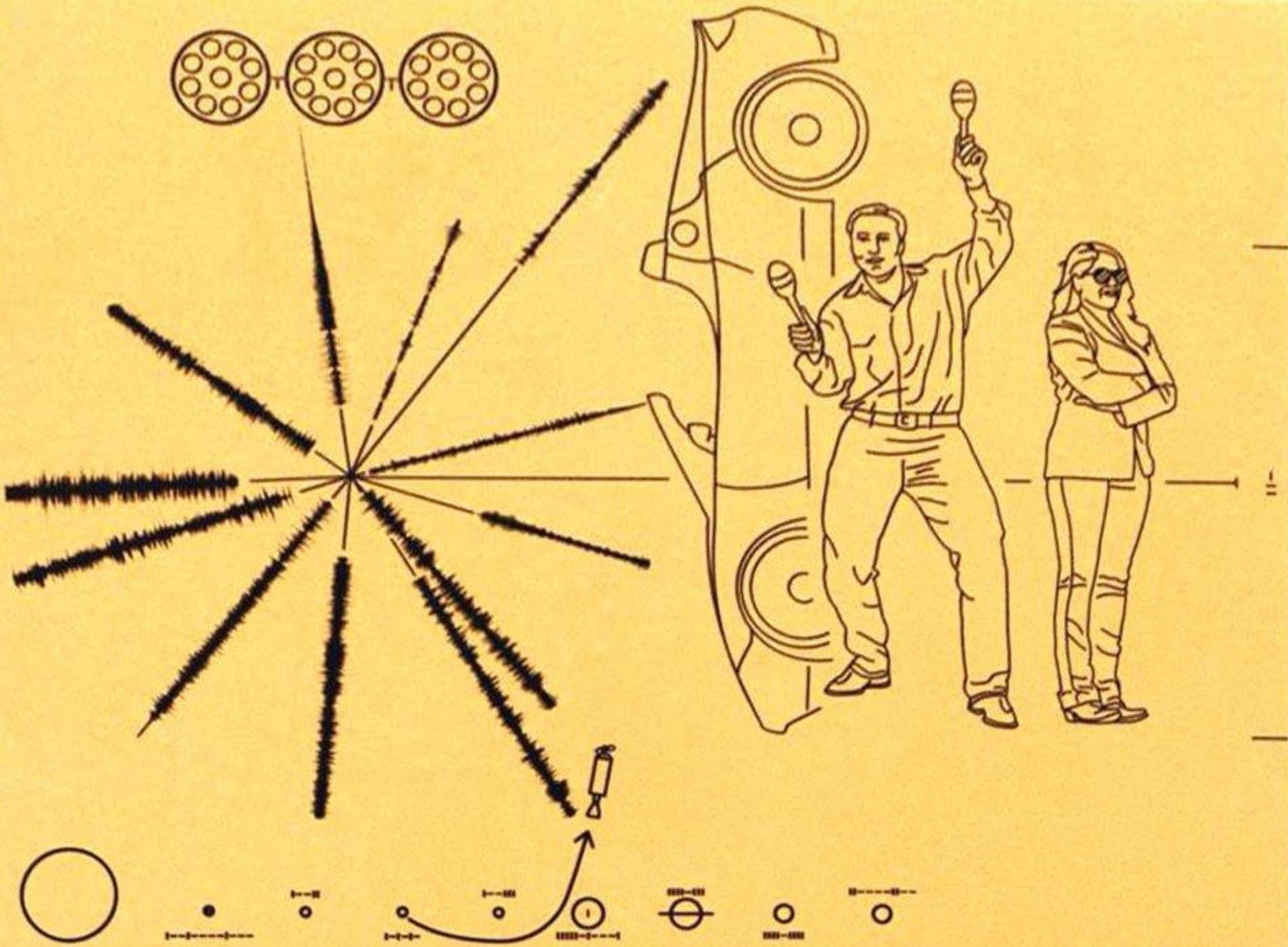


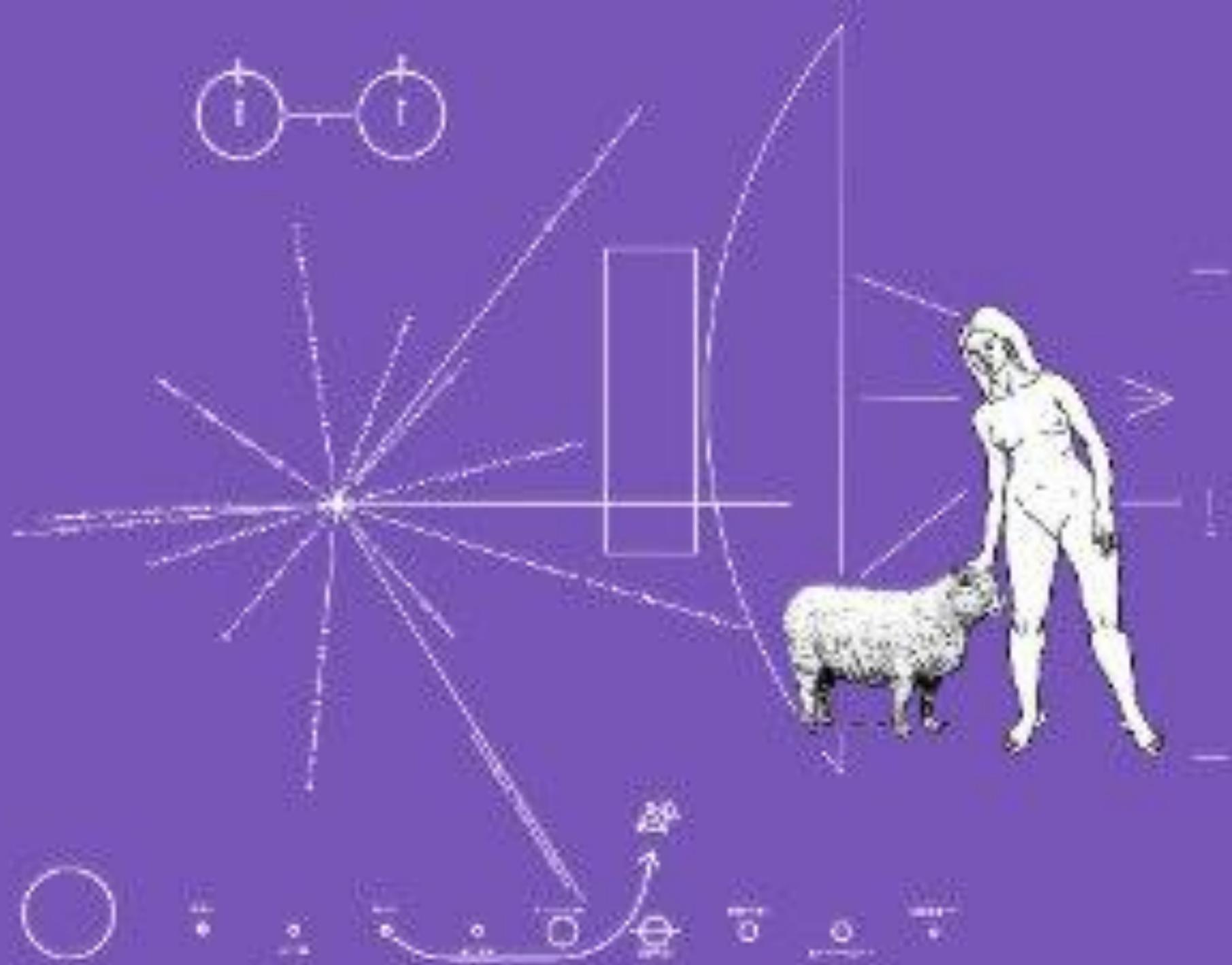
Carl Sagan

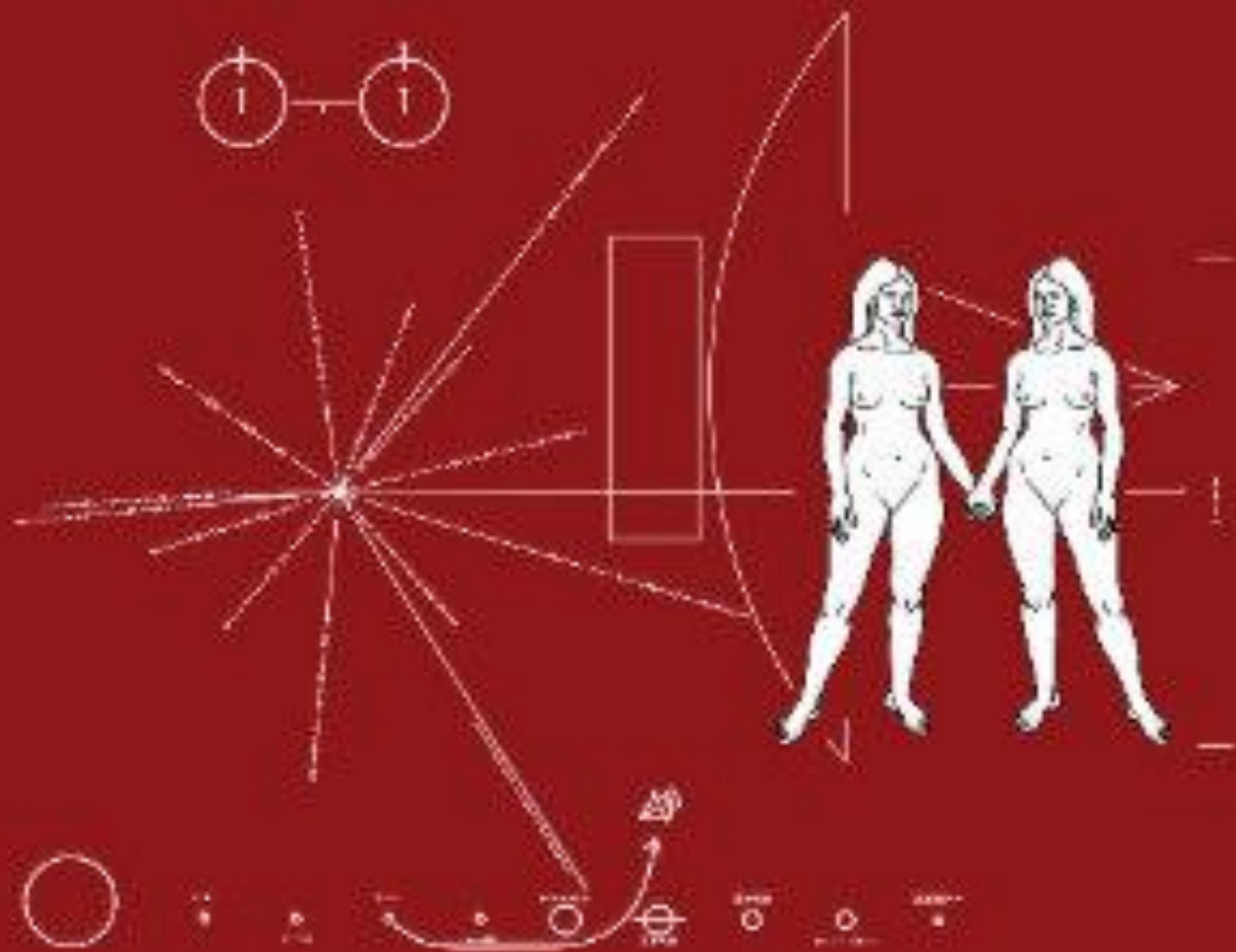


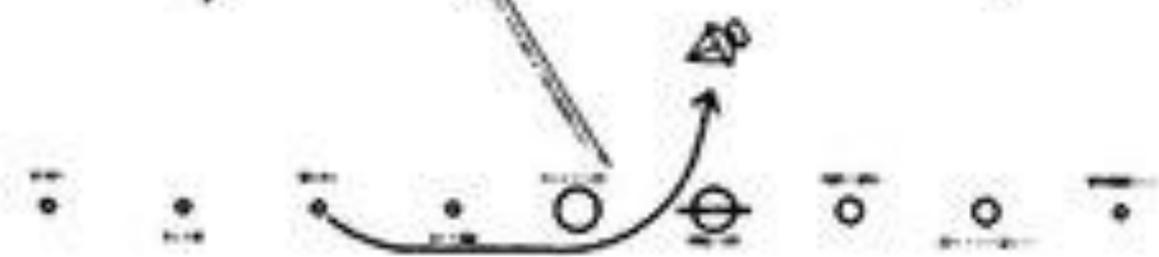
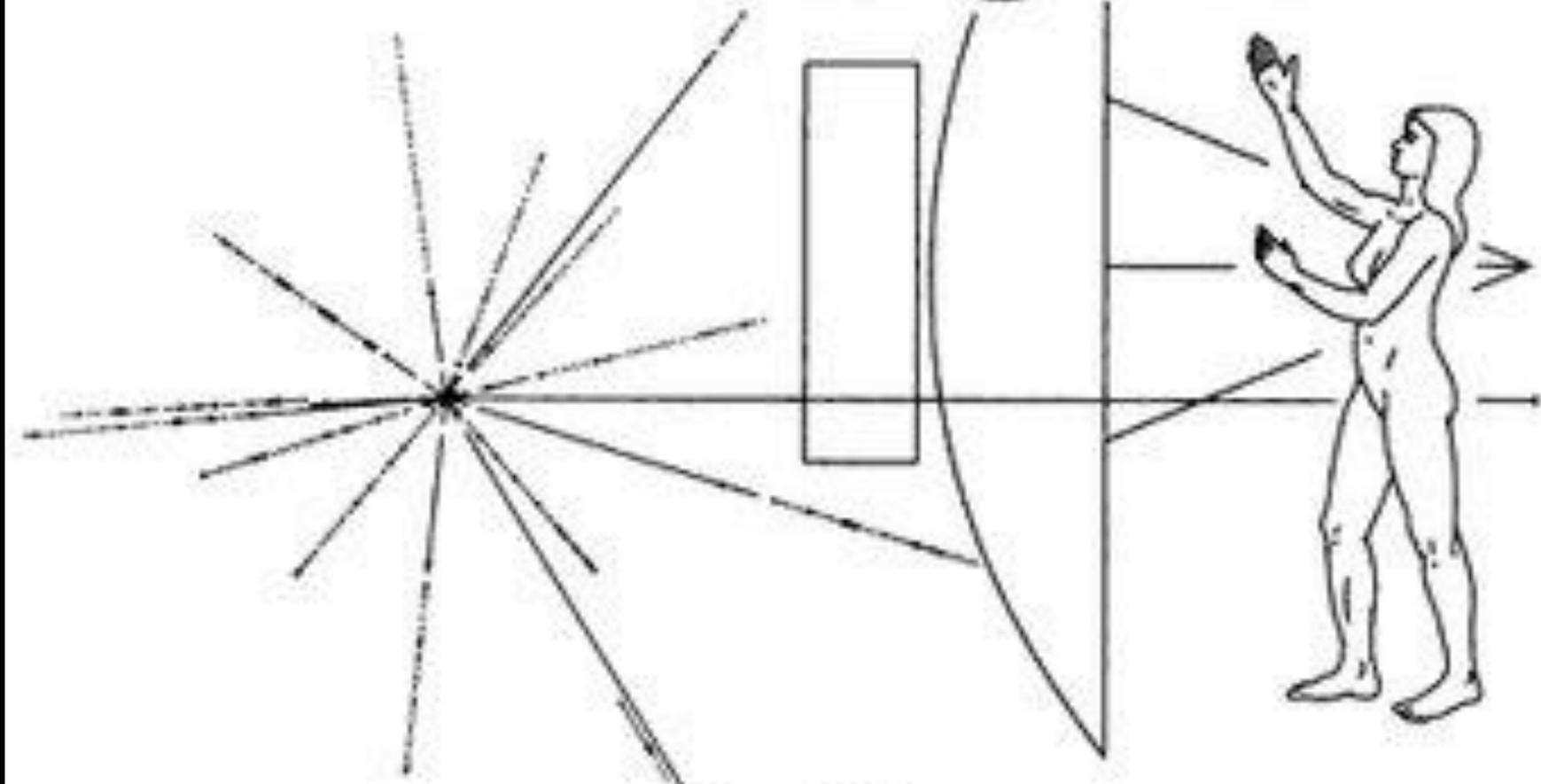
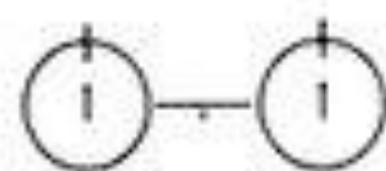


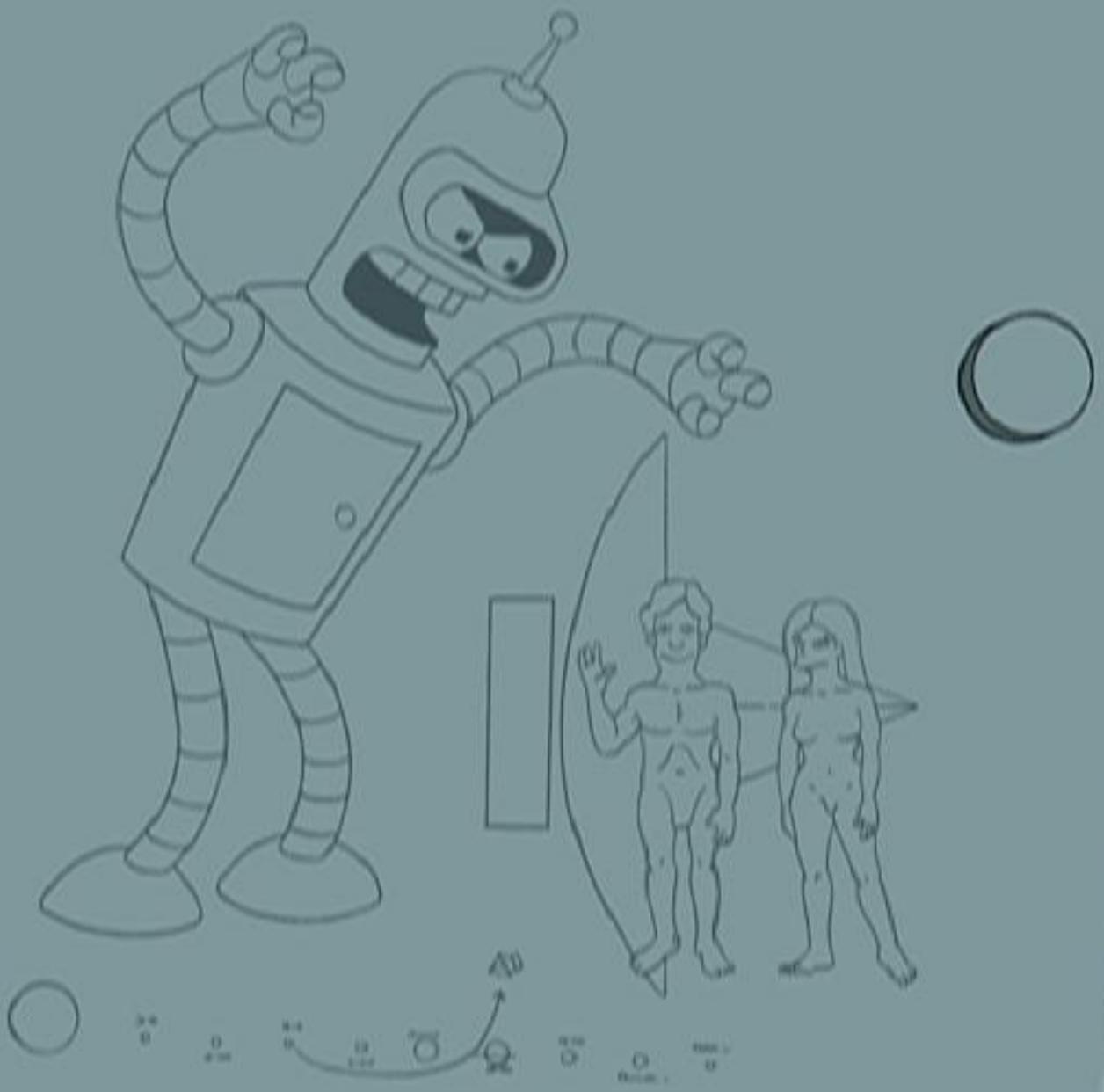




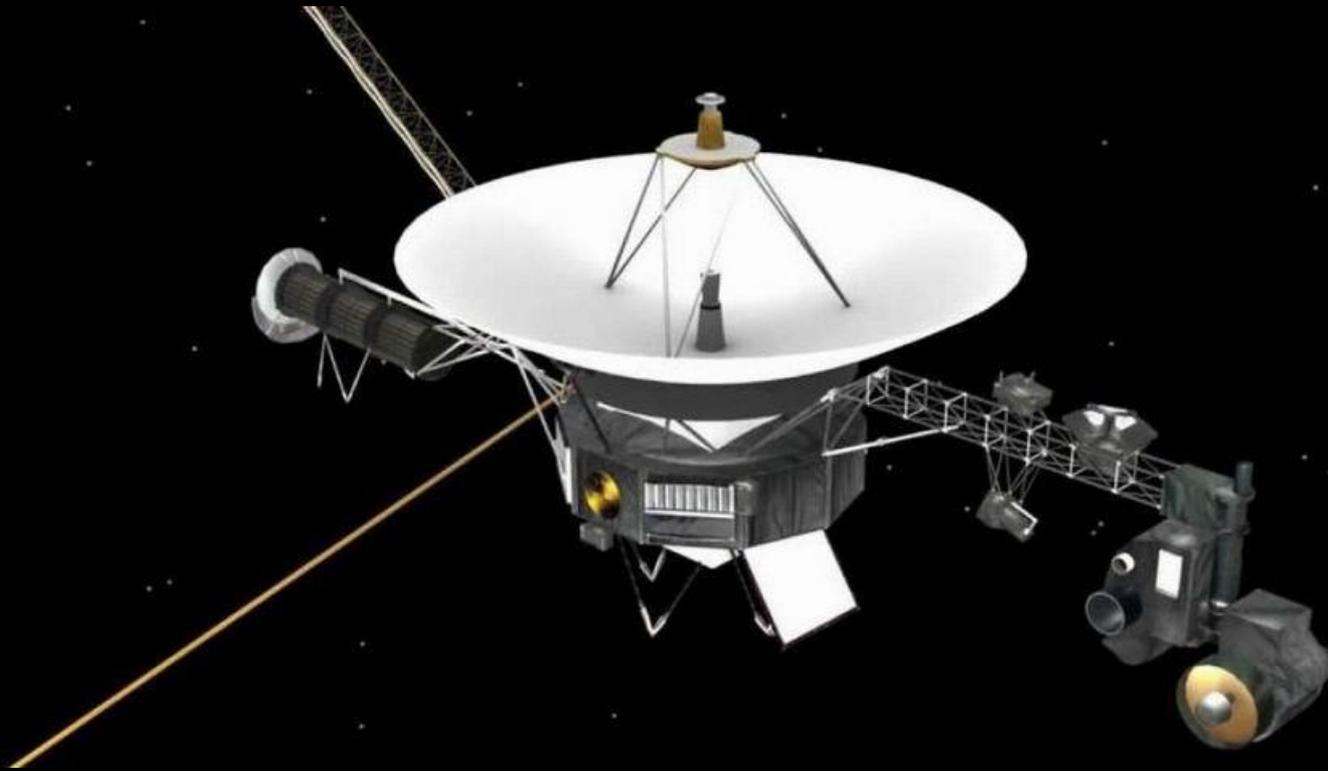




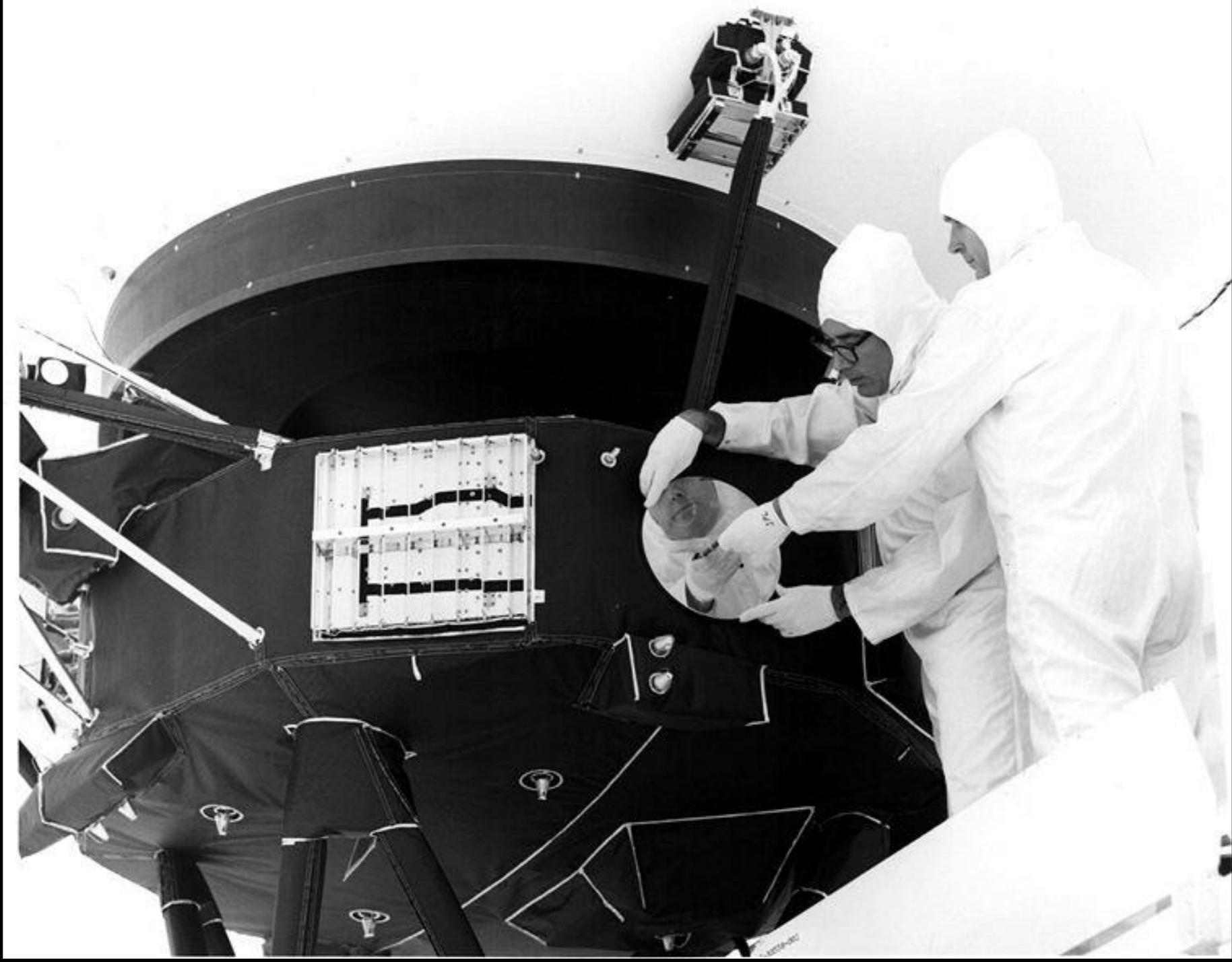




Voyager 1 a 2







Václav Otakar Kostroun (84)



Cornell University

*Milí přátelé, přežeme vám
vše nejlepší!*



Interstellar Express



Start 2024



Earth (2x gravity assist)



Jupiter (flyby)



Quaoar and Weywot (flyby)



Earth (2x gravity assist)



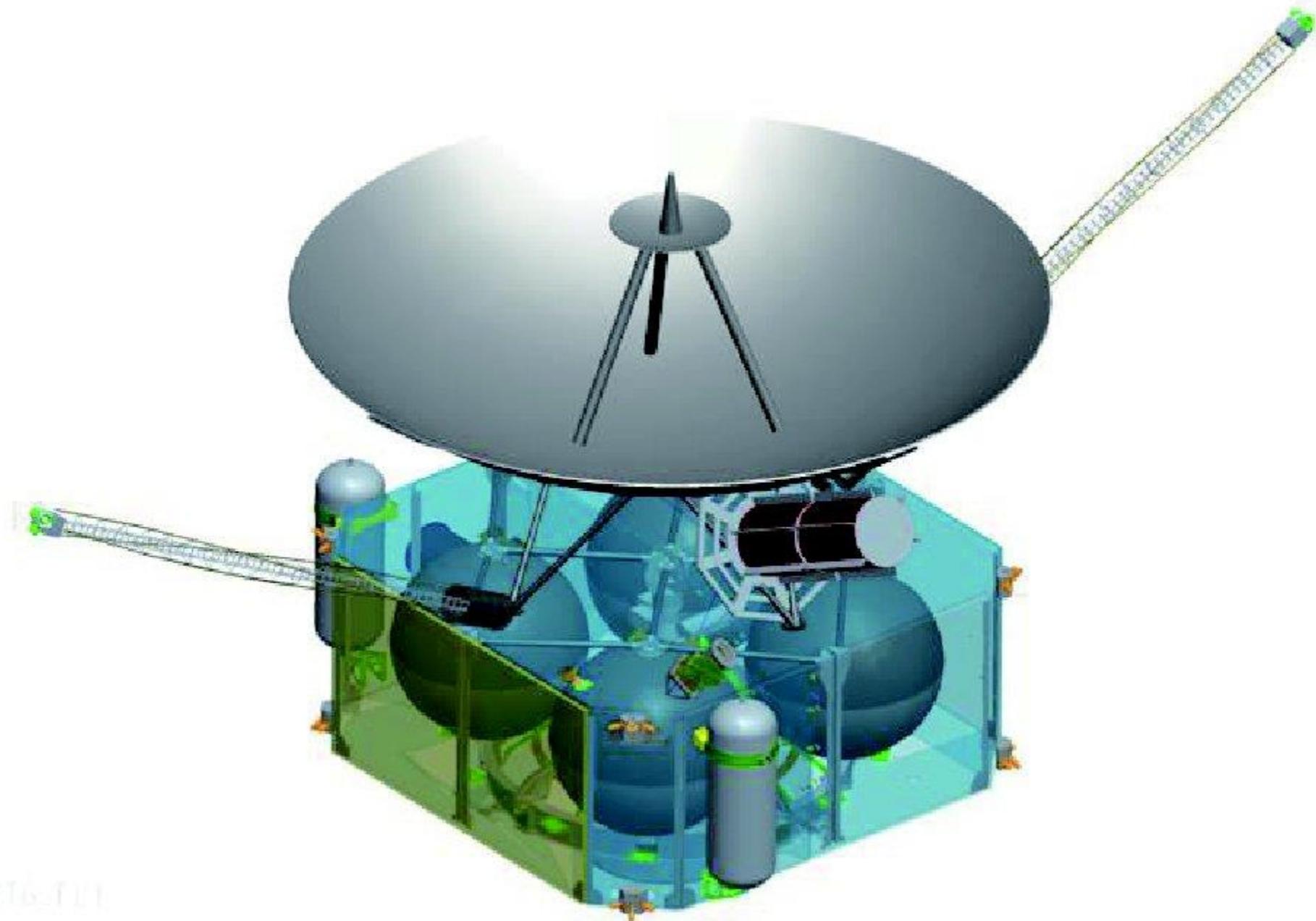
Jupiter (flyby)



Neptune (flyby)



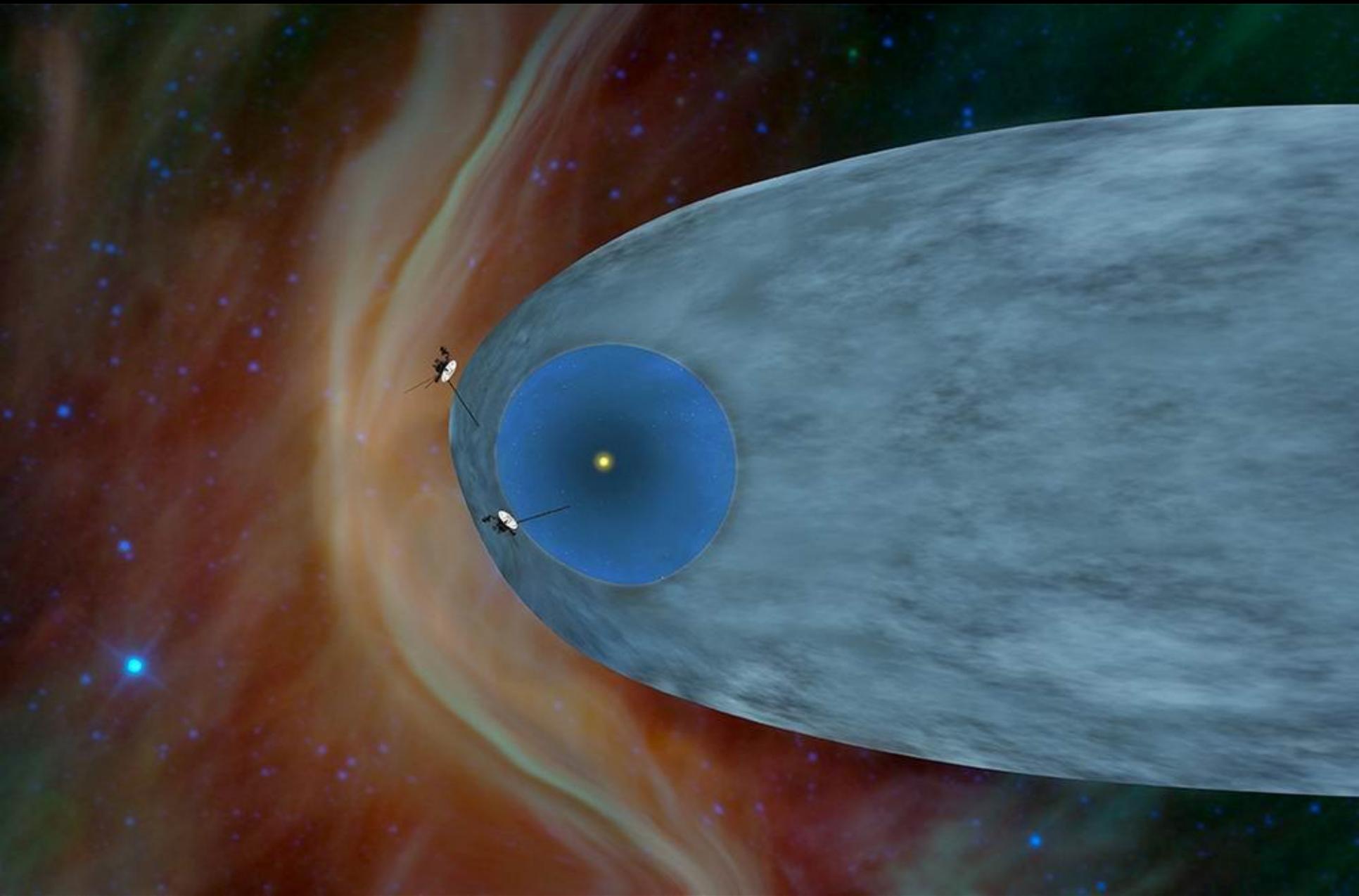
Triton (flyby)



RTG-FU1

Rázová vlna u hvězdy LL Ori

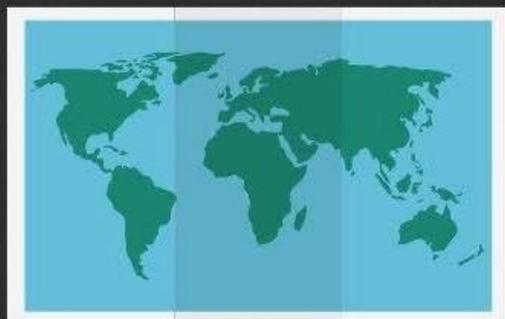




2049 – 100 AU

CHINA

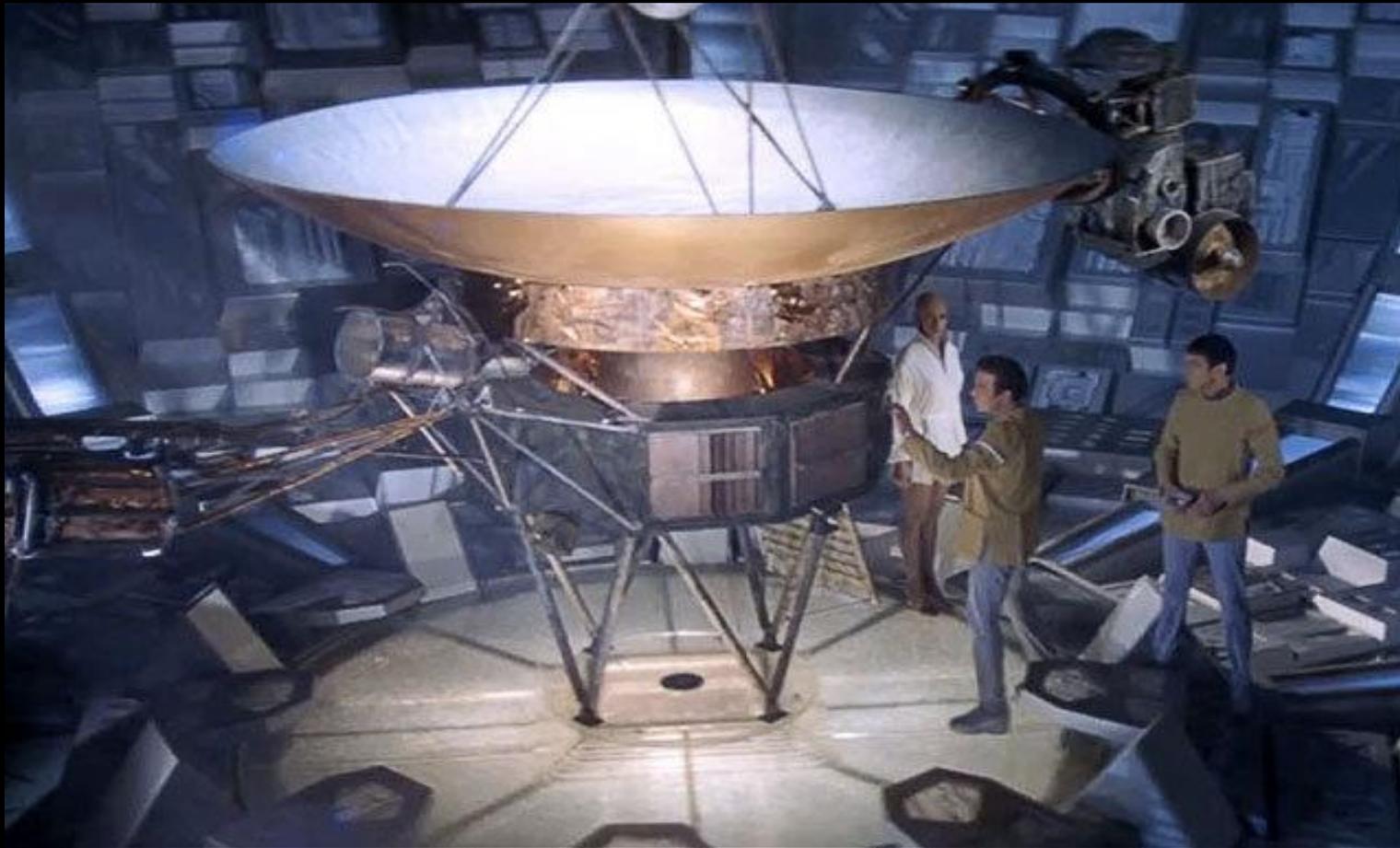
2049



Voyager 1 – 152 AU

Voyager 2 – 126 AU

Děkuji za pozornost!



Ing. Tomáš PŘIBYL
pribyl@technicalmuseum.cz
www.technicalmuseum.cz

 TECHNICKÉ
MUZEUM
V BRNĚ