



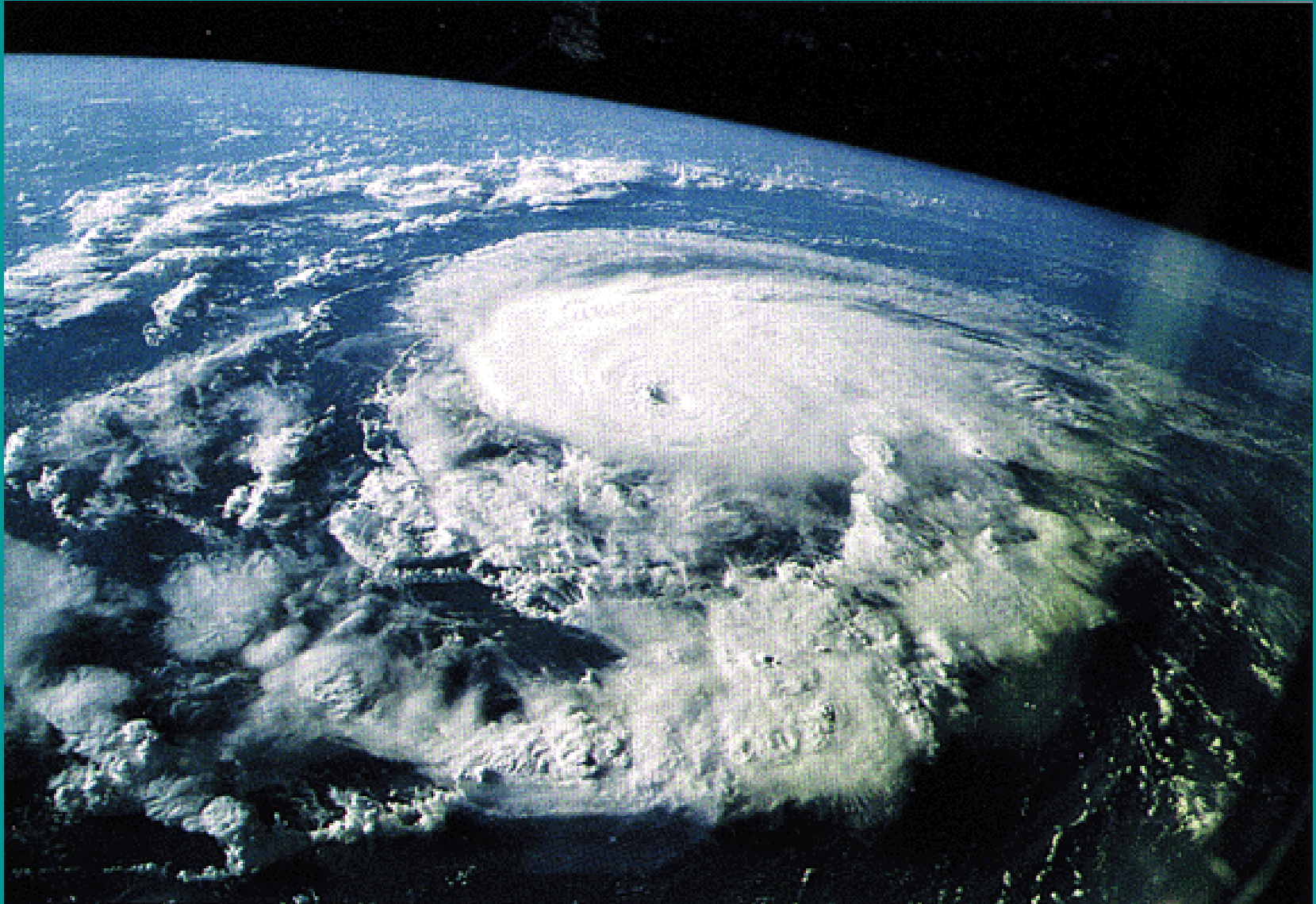


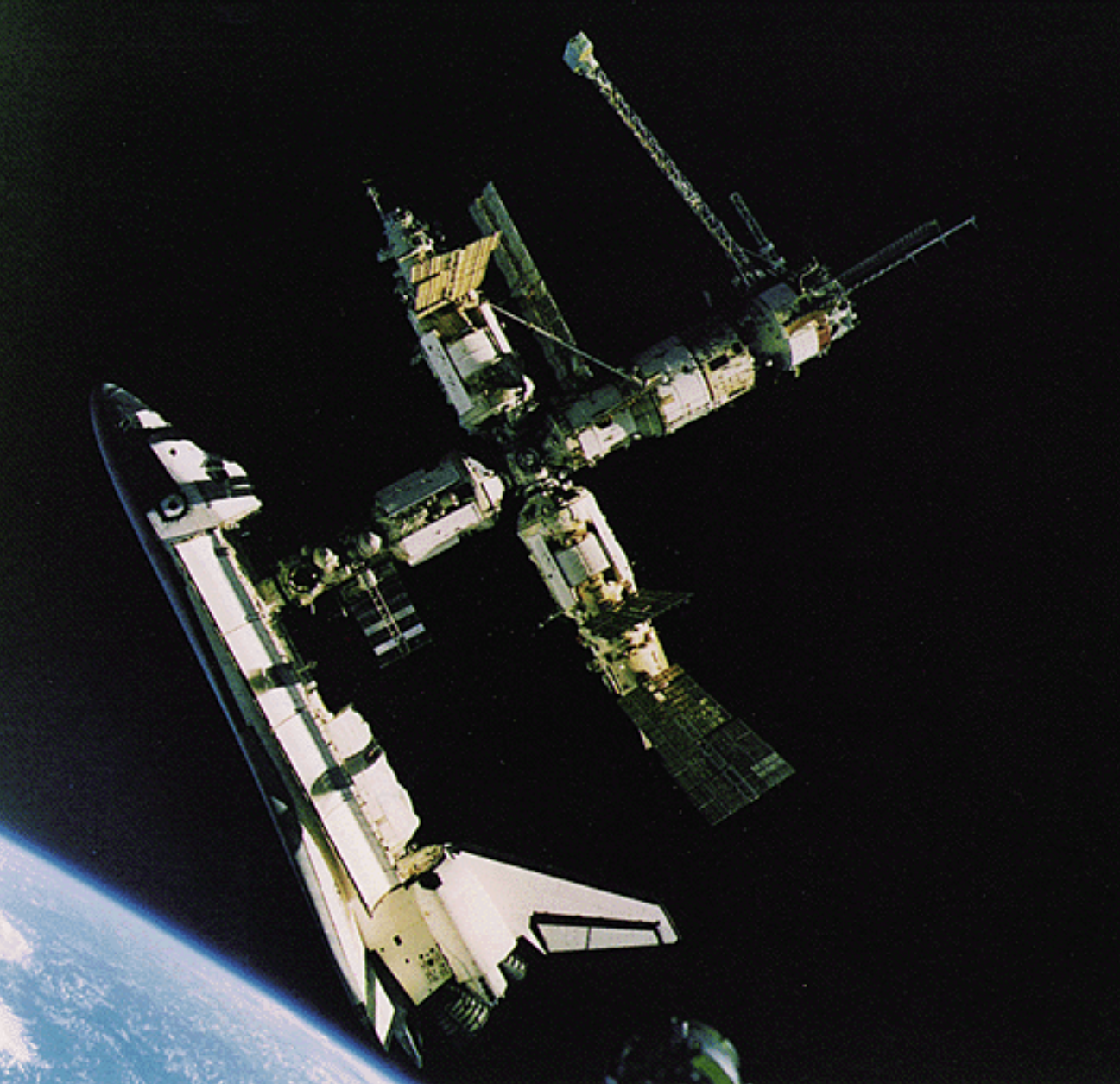
sullo
shuttle



Sorvoliamo il mar mediterraneo tra Grecia e Turchia

e un uragano nei Caraibi





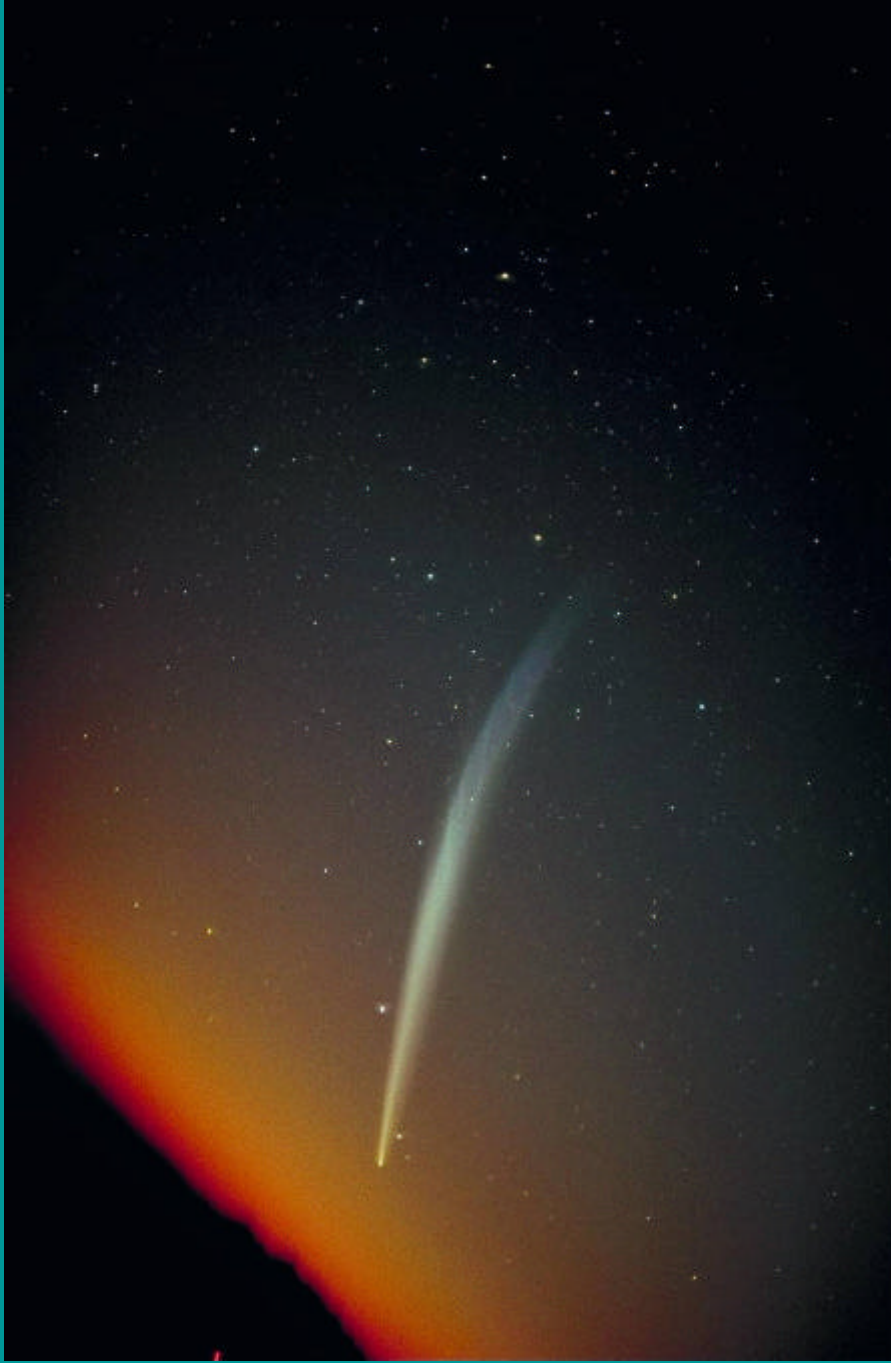
**una sosta
prima di
ripartire**

ecco la
Terra
colorata



**ancora
la Terra**





**attenti
alla cometa**

Cometa Hale-Bopp



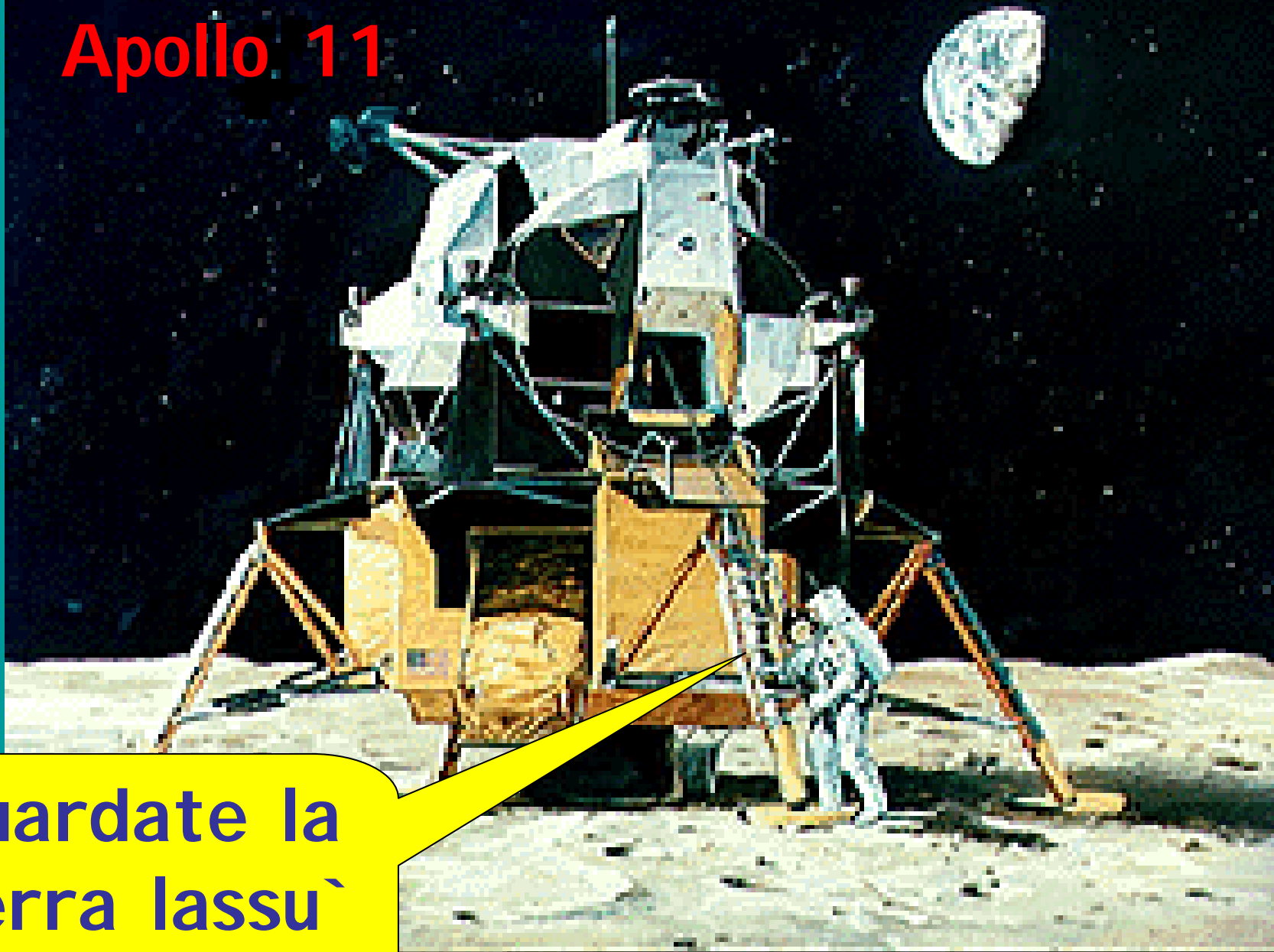
ecco la Luna



con le sue fasi



Apollo 11

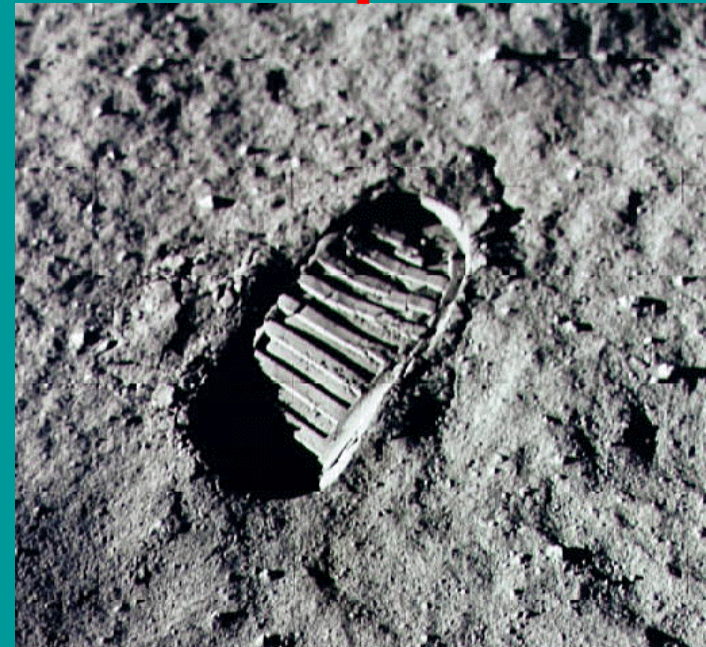


guardate la
Terra lassu`

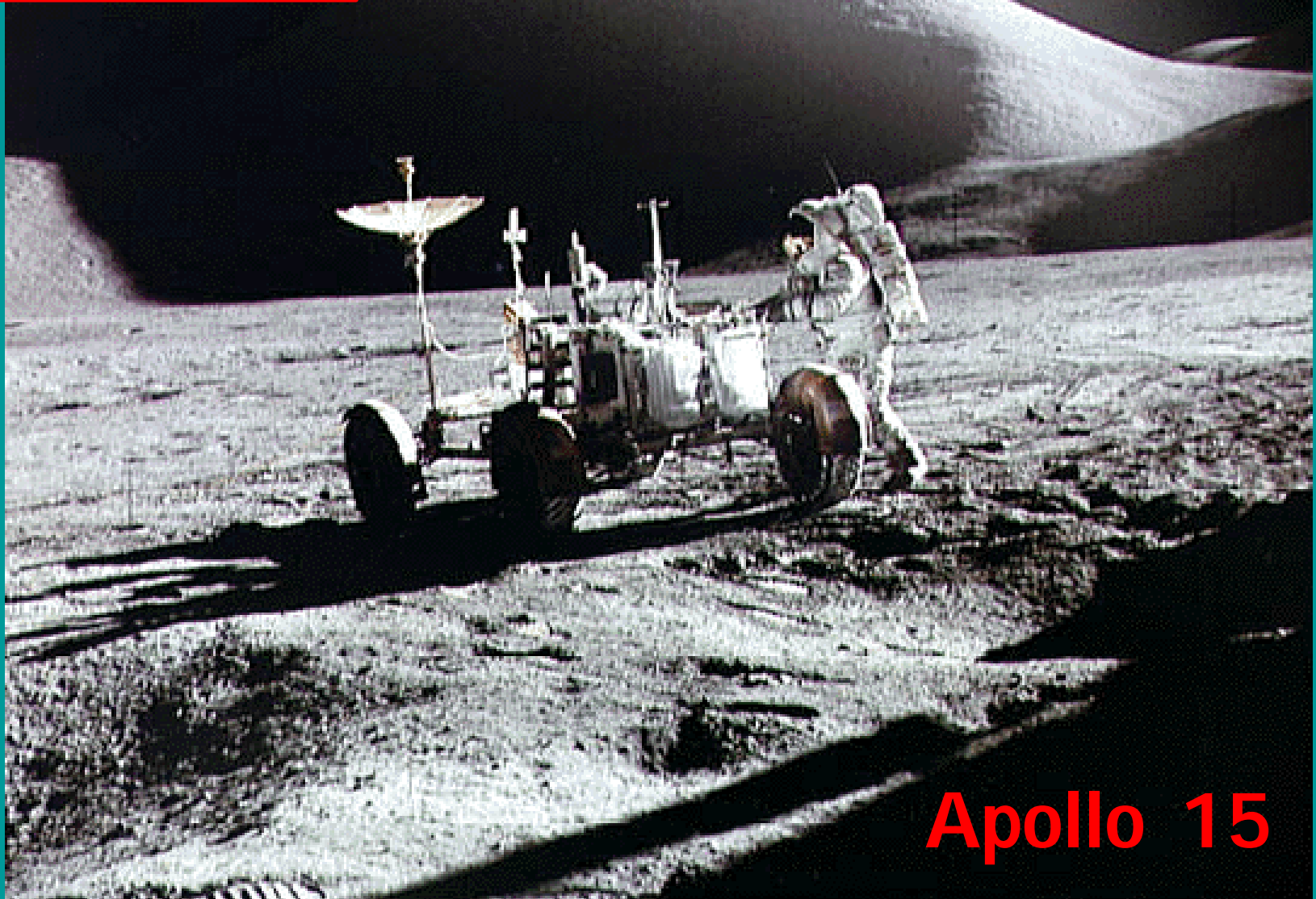


Eccoci arrivati

**questa impronta
non sparirà
mai più**

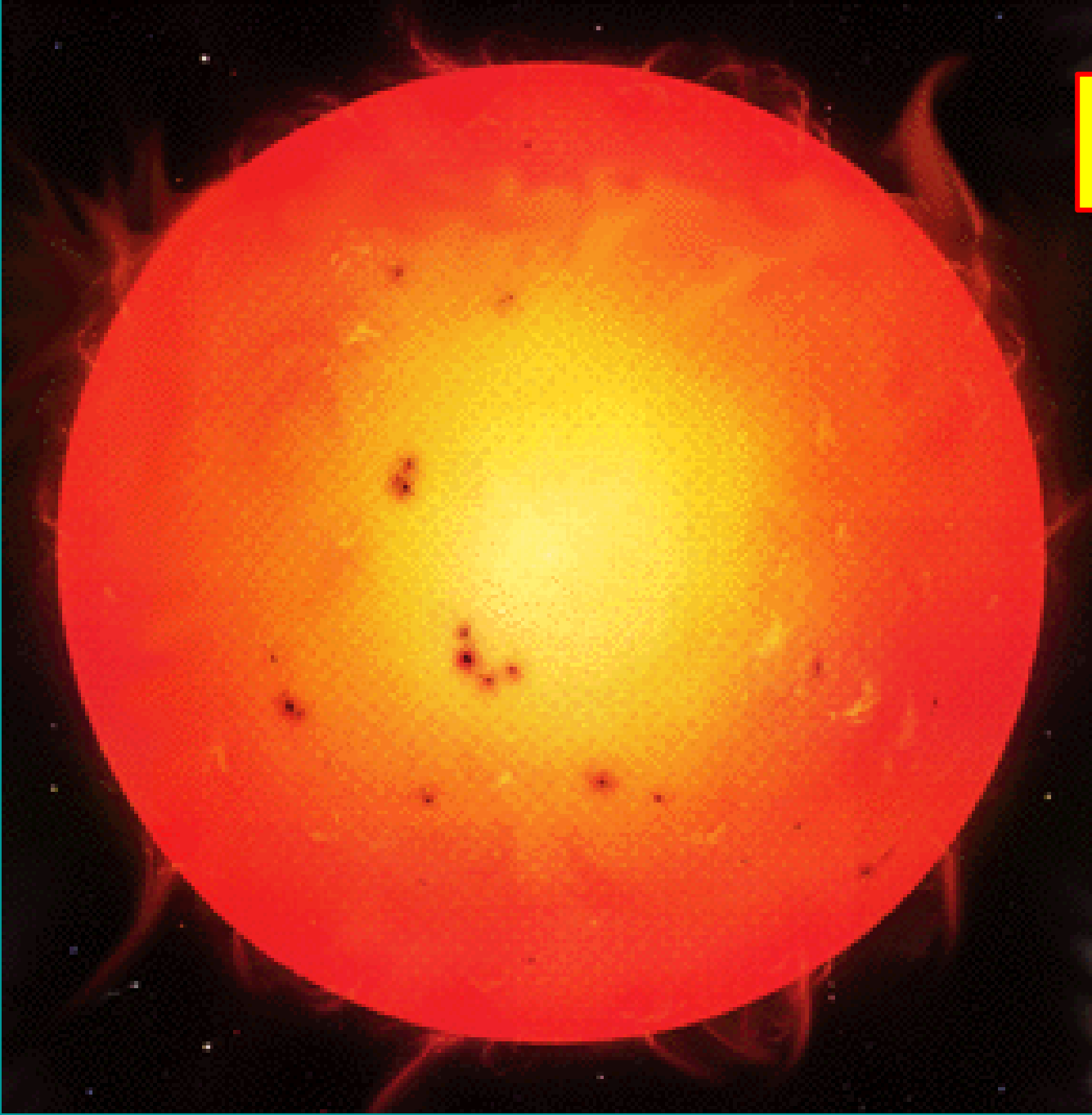


buon viaggio

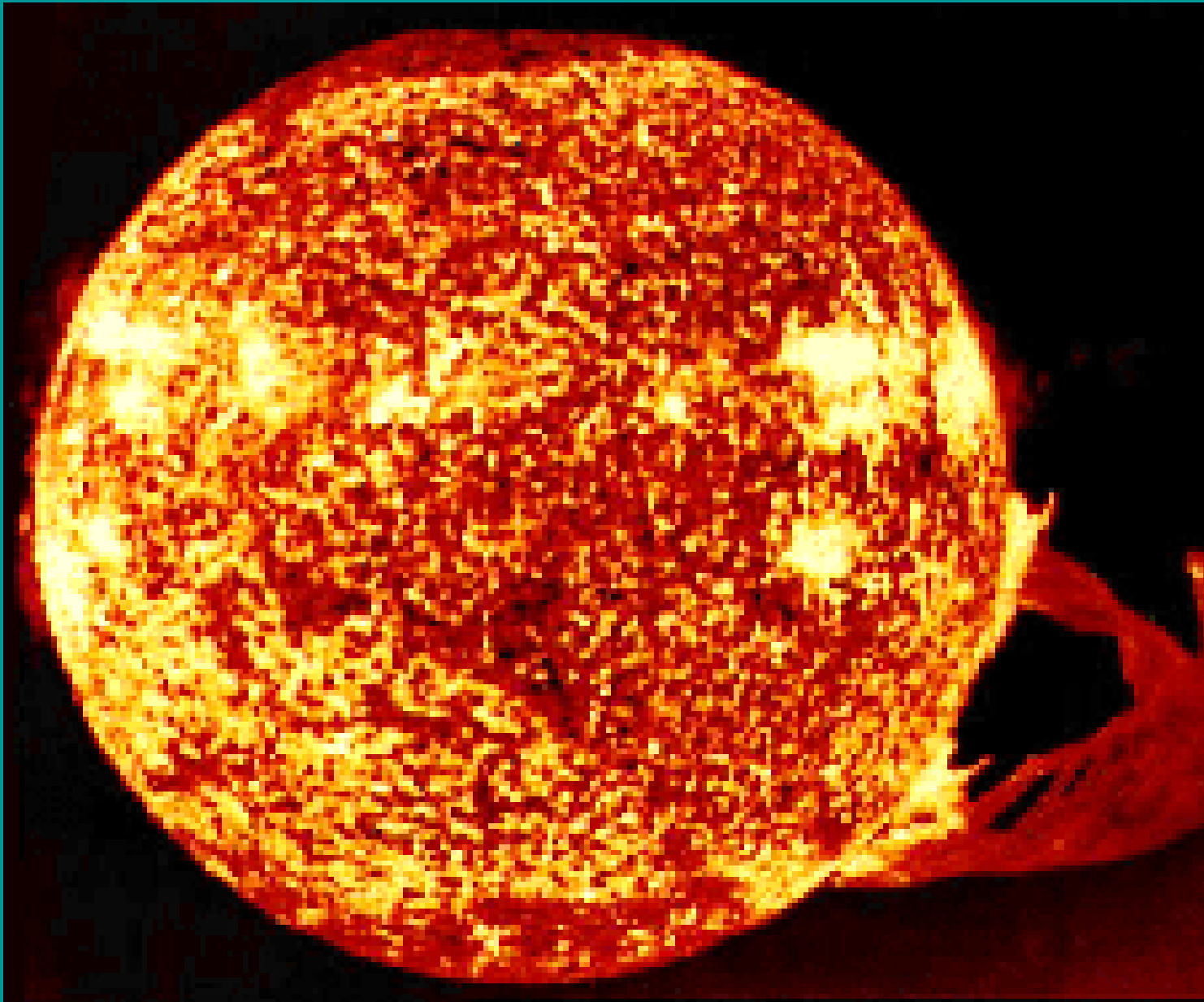


Apollo 15

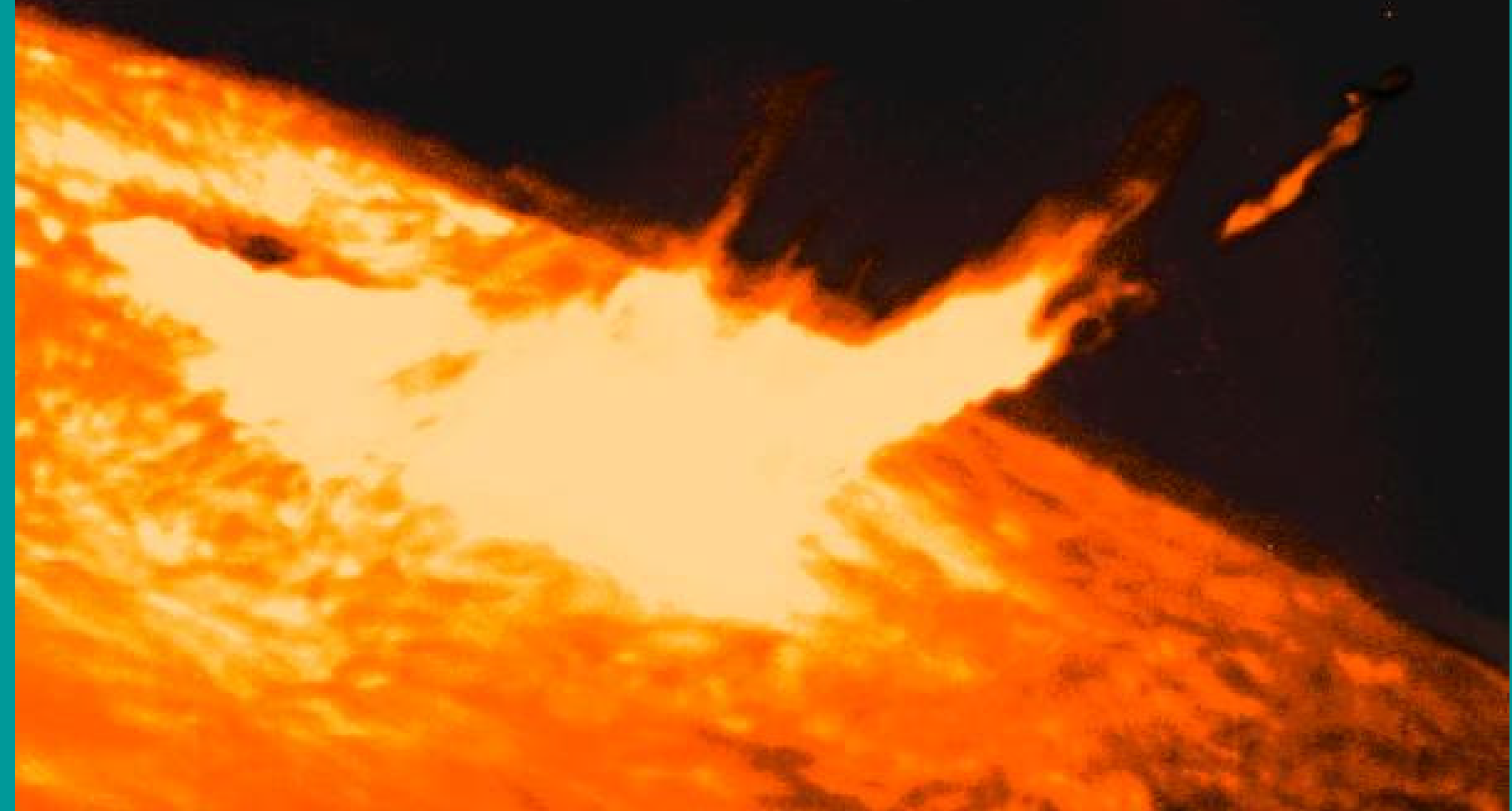
II Sole



Il Sole visto dallo Skylab



Fiamme solari



eclisse totale di Sole



Eclisse di Sole effetto diamante



5 pianeti allineati

Mercurio

Venere

Marte

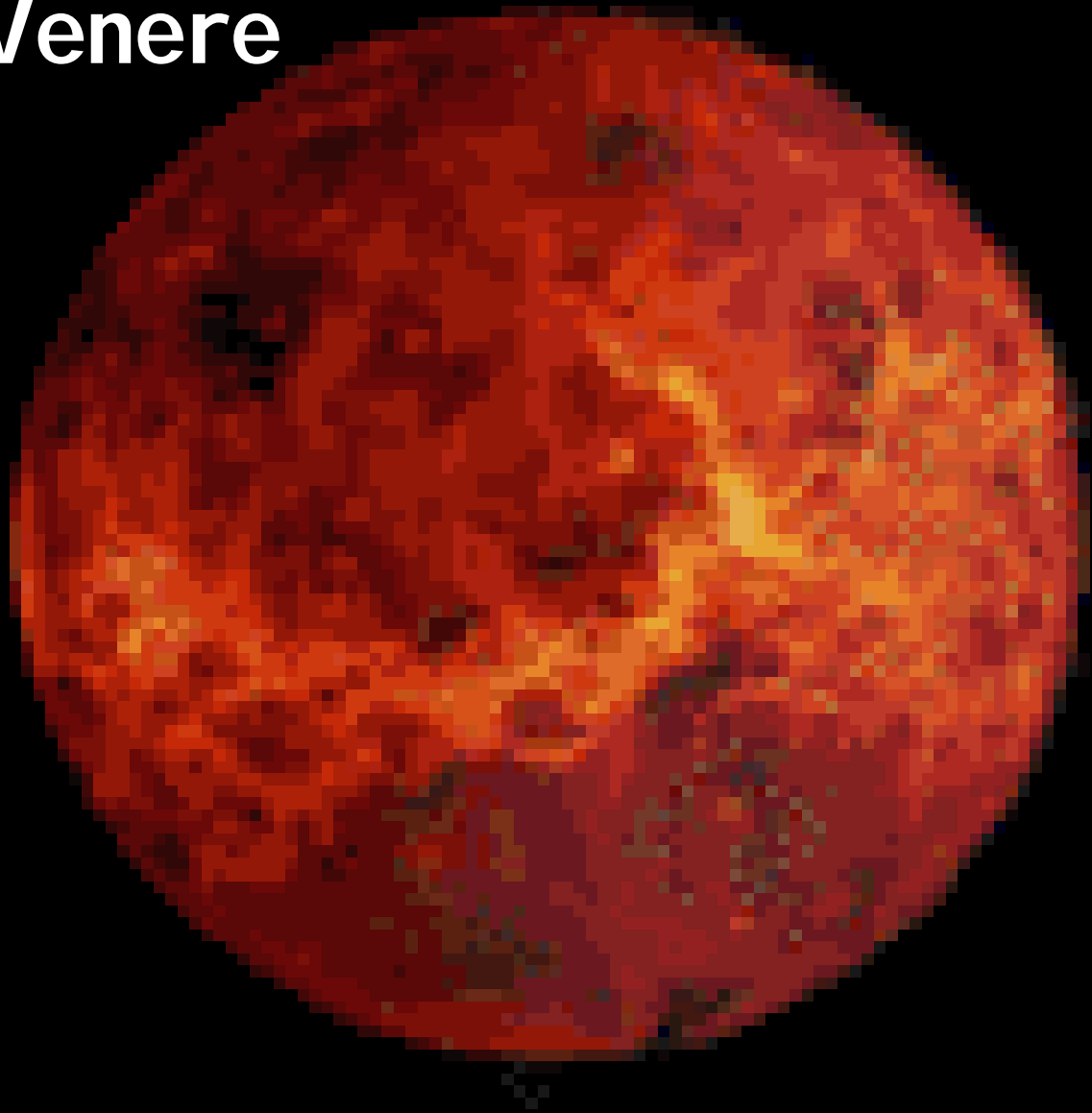
Giove

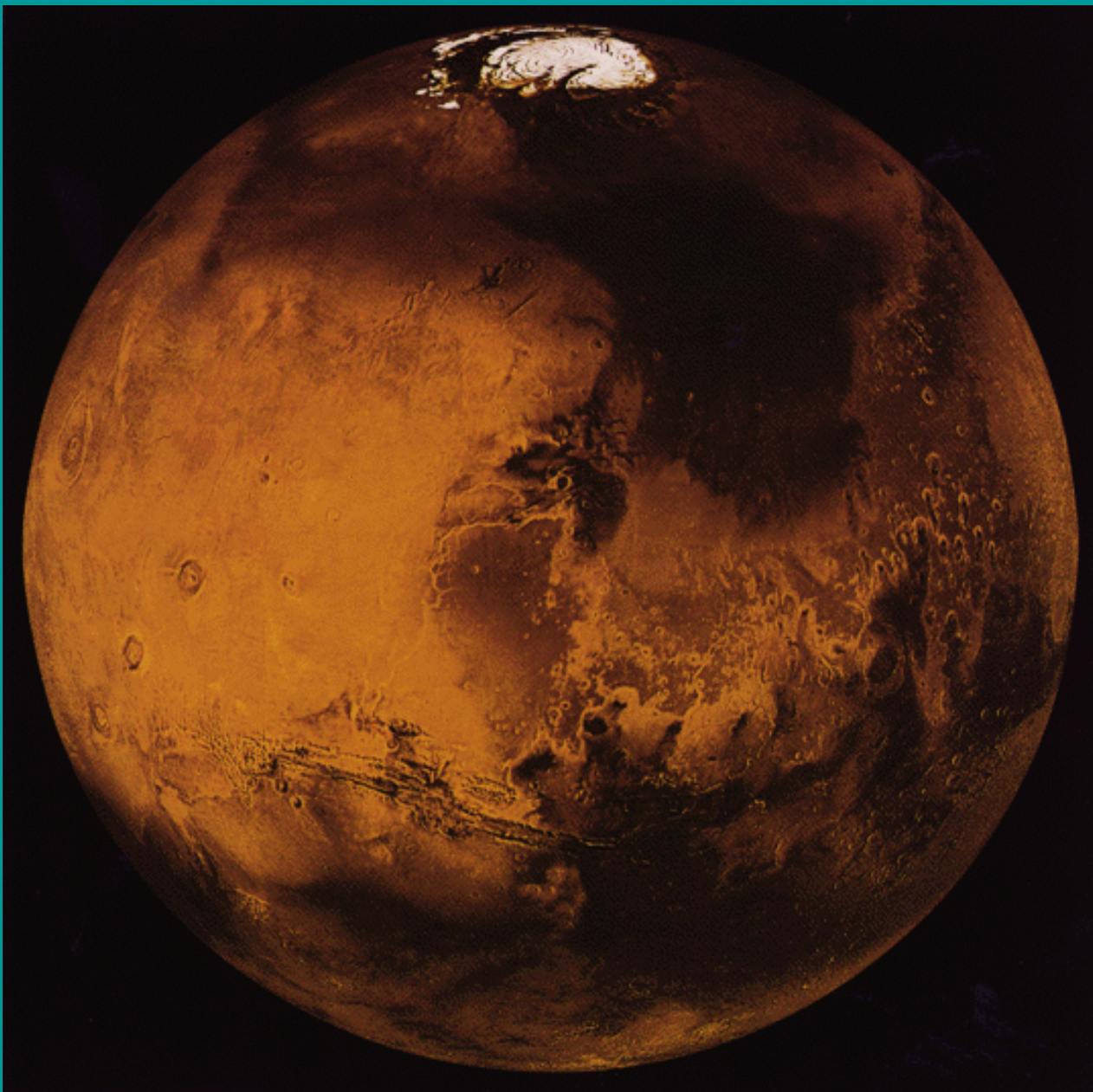
Saturno



Mercurio

Venere



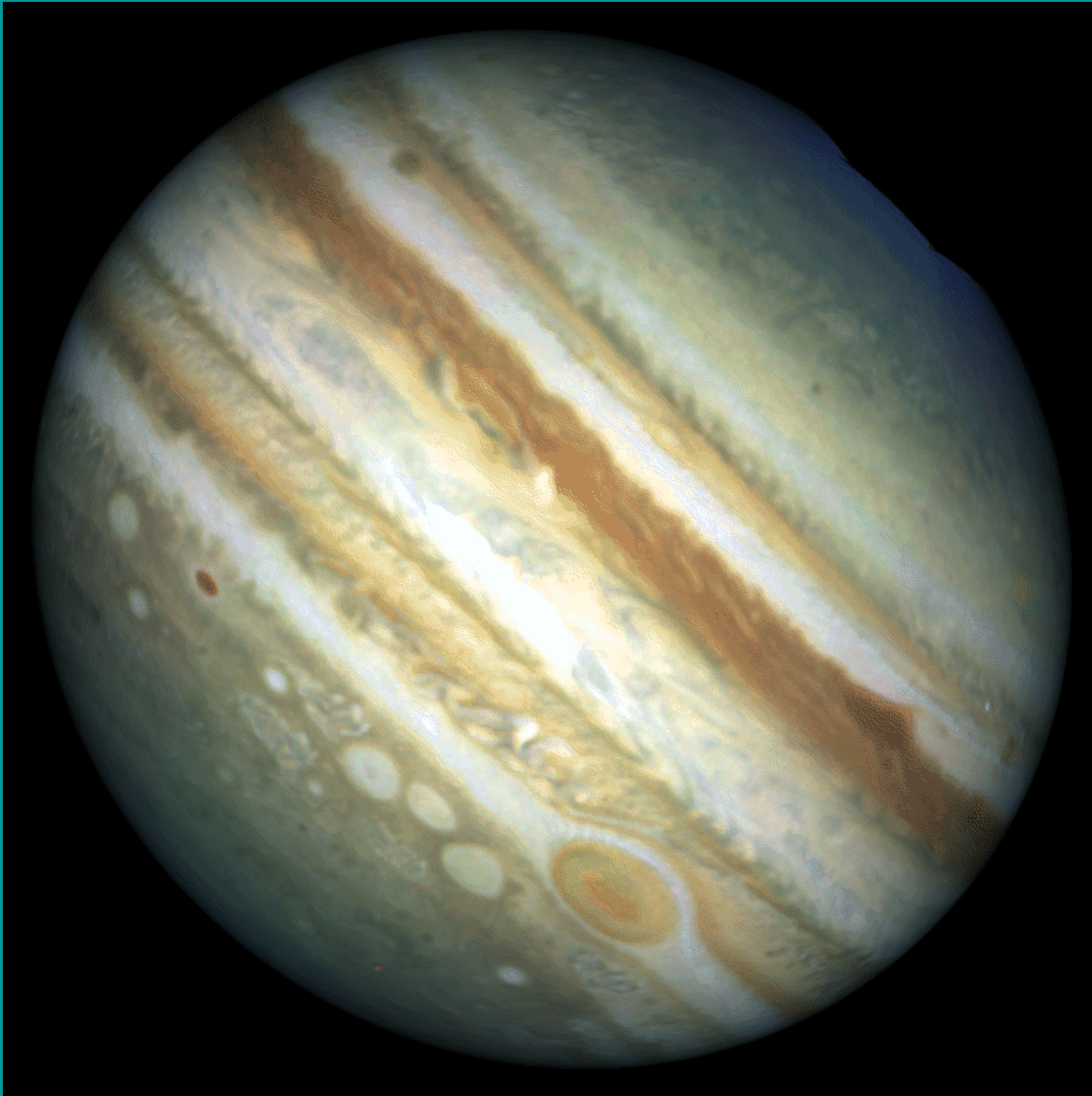


Marte



Il monte Olimpo

Giove





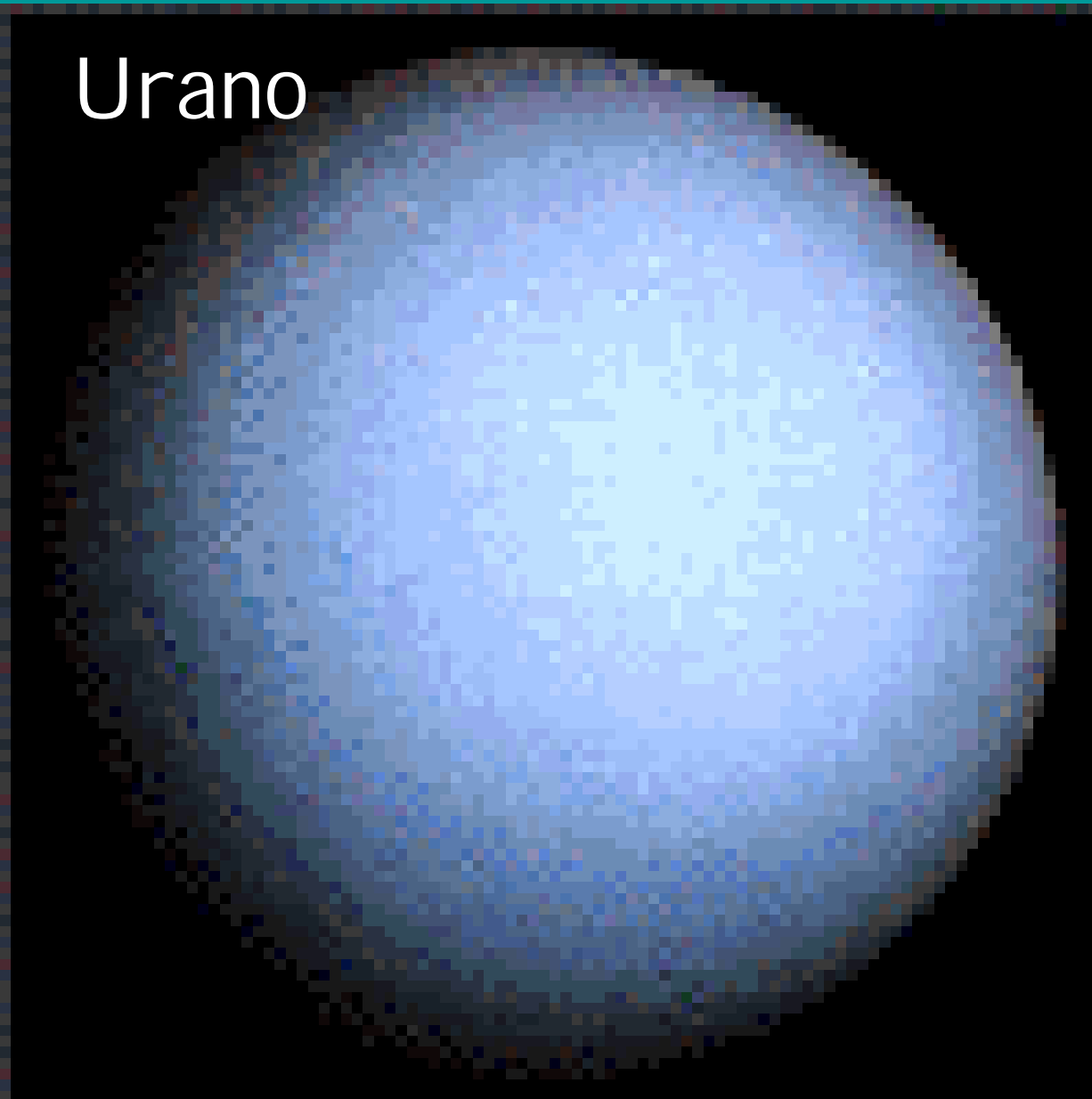
Saturno



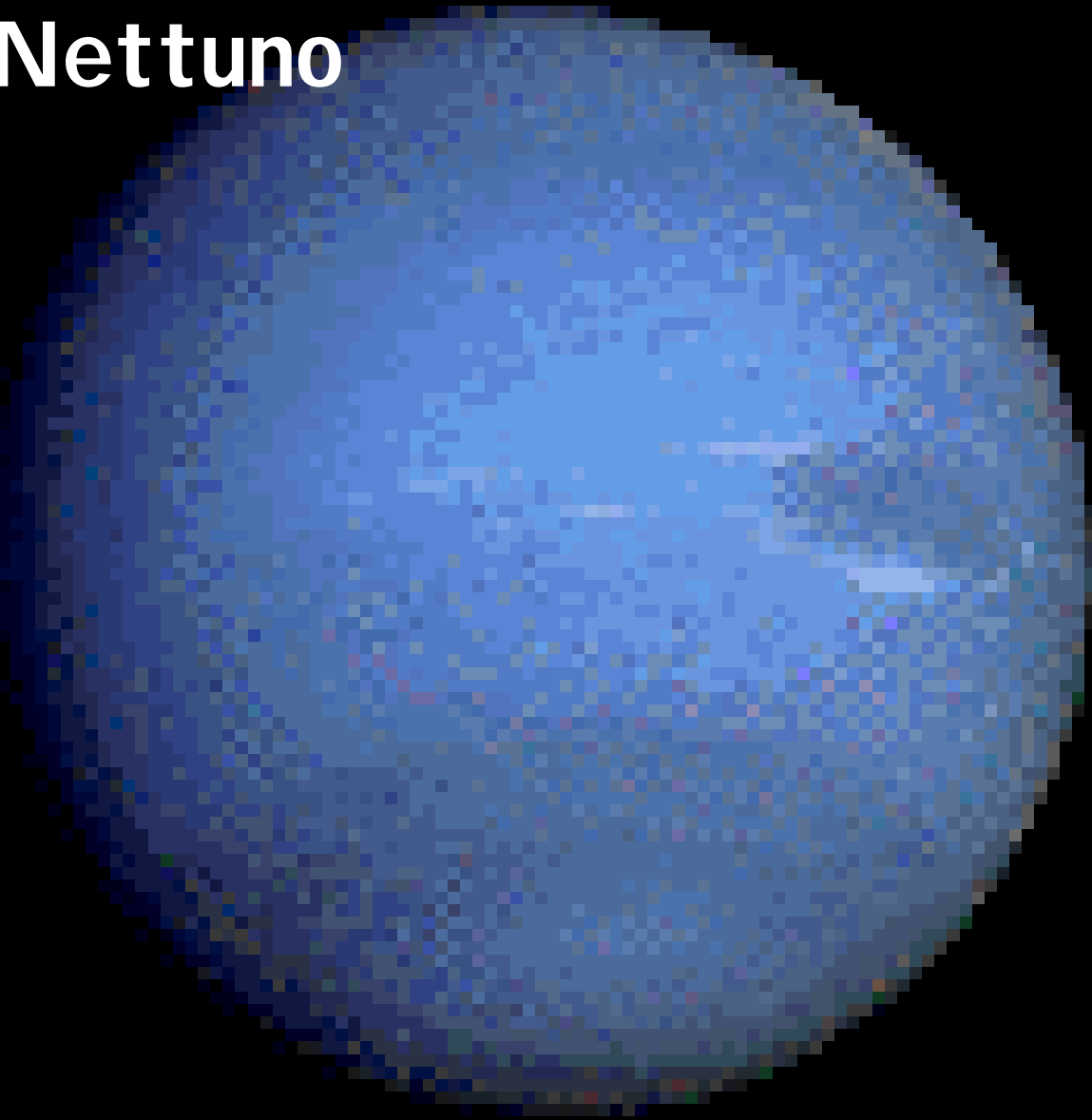


Saturno

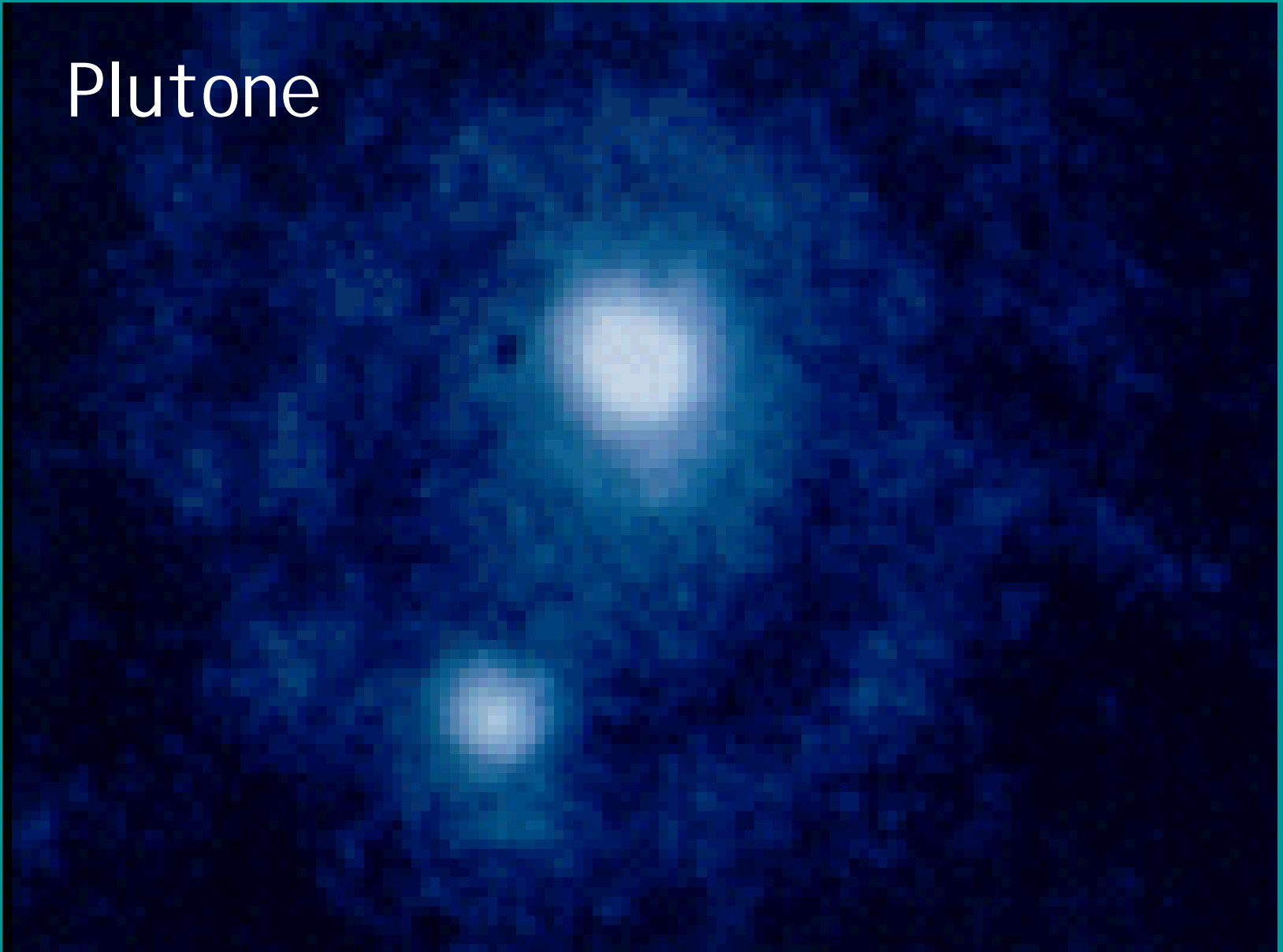
Urano

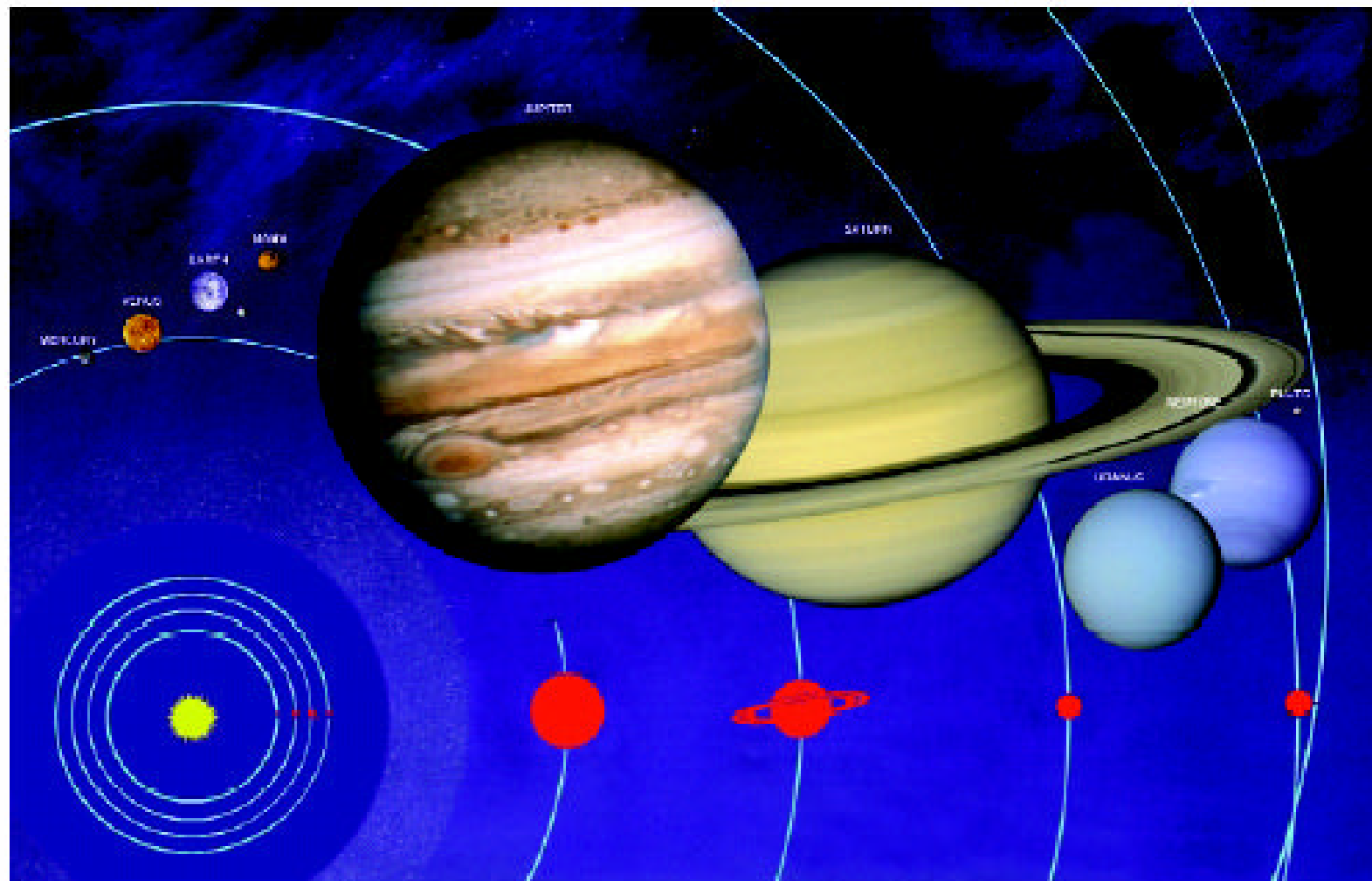


Nettuno

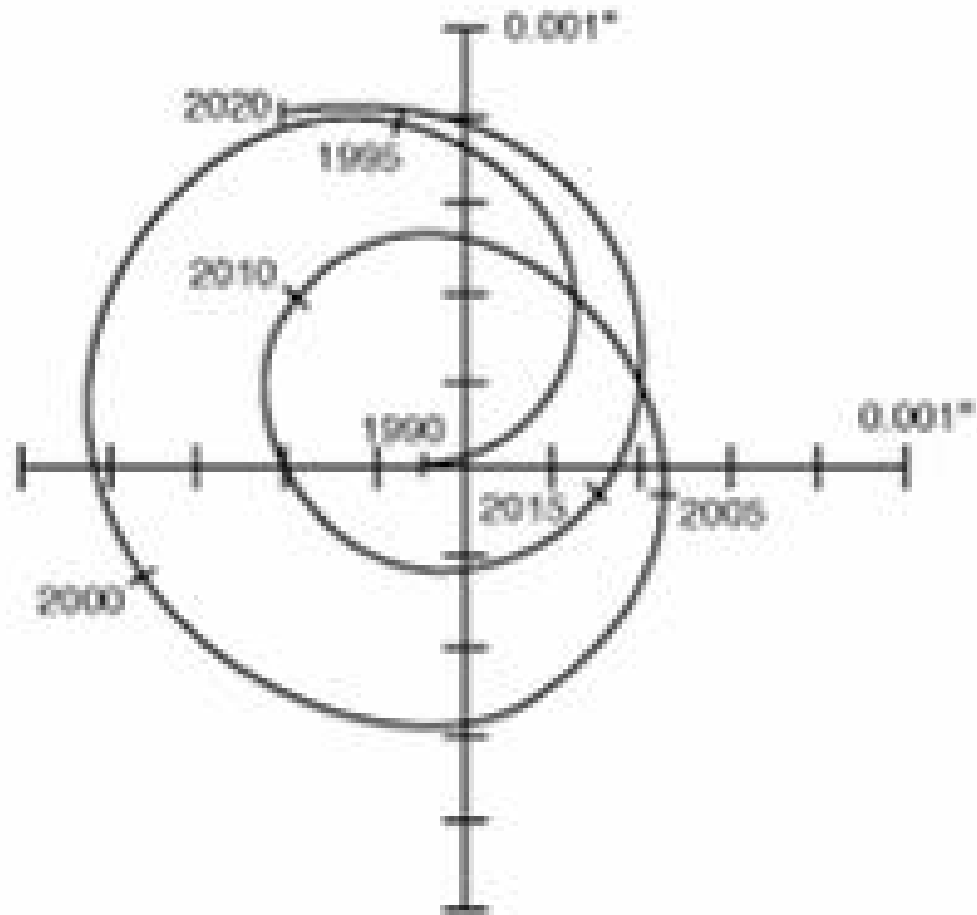


Plutone






	Distance (AU)	Radius (Earth's)	Mass (Earth's)	Rotation (Earth's)	# Moons	Orbital Inclination	Orbital Eccentricity	Density (g/cm ³)
<u>Sun</u>	0	109	332,800	25-36*	9	---	---	1.410
<u>Mercury</u>	0.39	0.38	0.05	58.8	0	7	0.2056	5.43
<u>Venus</u>	0.72	0.95	0.89	244	0	3.394	0.0068	5.25
<u>Earth</u>	1.0	1.00	1.00	1.00	1	0.000	0.0167	5.52
<u>Mars</u>	1.5	0.53	0.11	1.029	2	1.850	0.0934	3.95
<u>Jupiter</u>	5.2	11	318	0.411	16	1.308	0.0483	1.33
<u>Saturn</u>	9.5	9	95	0.428	18	2.488	0.0560	0.69
<u>Uranus</u>	19.2	4	15	0.748	15	0.774	0.0461	1.29
<u>Neptune</u>	30.1	4	17	0.802	8	1.774	0.0097	1.64
<u>Pluto</u>	39.5	0.18	0.002	0.267	1	17.15	0.2482	2.03



**Astrometric displacement of the Sun due to Jupiter
as seen from 10 parsecs.**

A long-exposure photograph of a night sky showing numerous concentric star trails. In the foreground, the dark silhouettes of several observatory domes are visible. One dome in the center-right is illuminated from within, casting a warm red glow. The trails are most prominent in the upper half of the frame, curving around a central point.

**sono le stelle a muoversi...
...o e' la terra?**



come si vede il moto delle stelle all'equatore

KECK





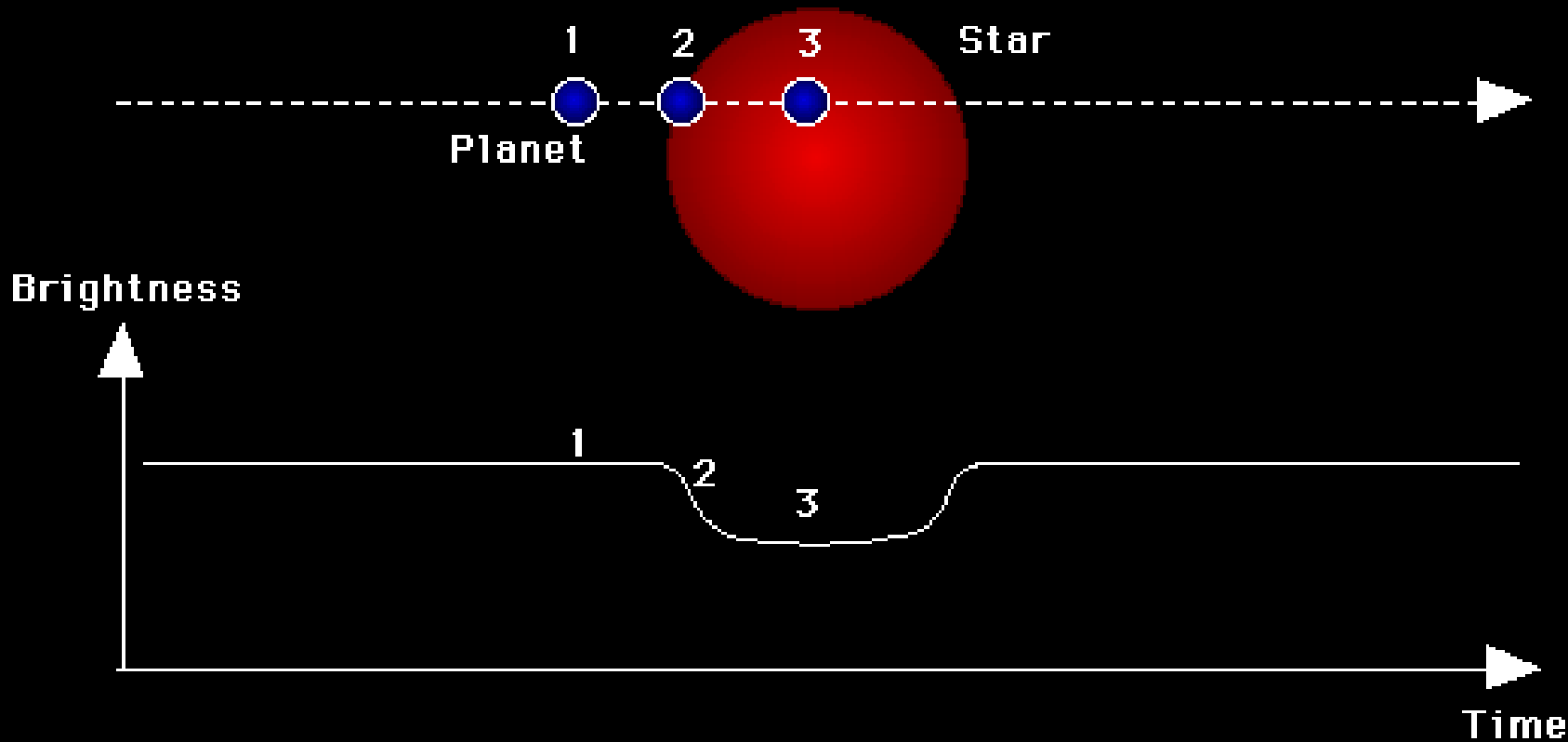
La Silla

Evening Start-up at the La Silla Observatory

ESO PR Photo 13a/00 (4 May 2000)

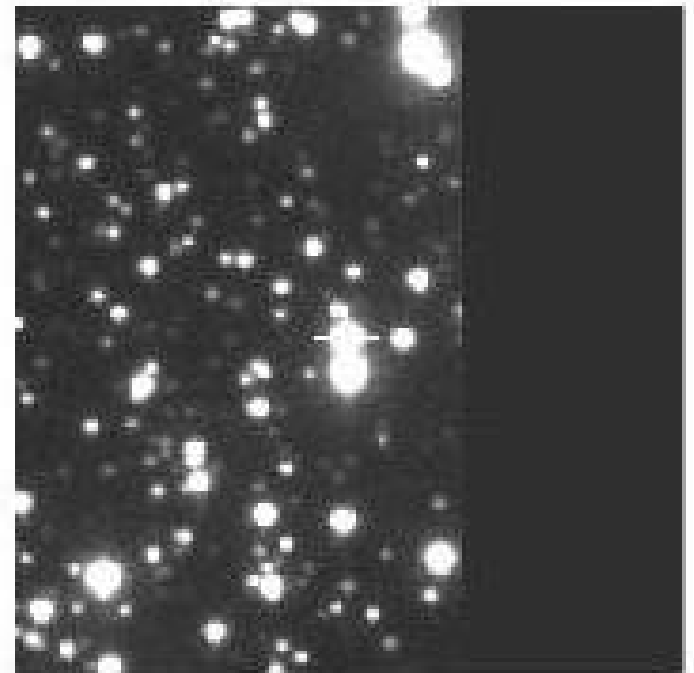
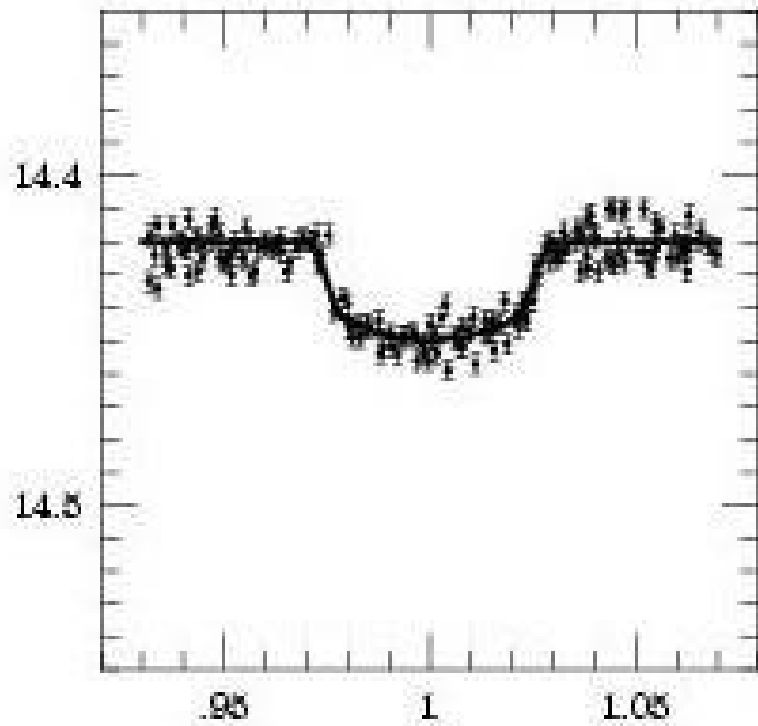
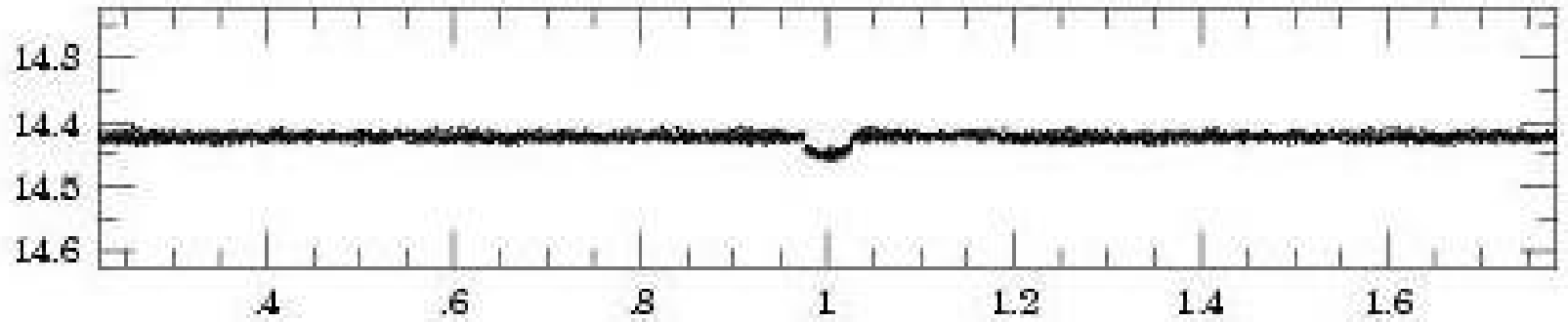
transito di un pianeta sul disco della sua stella

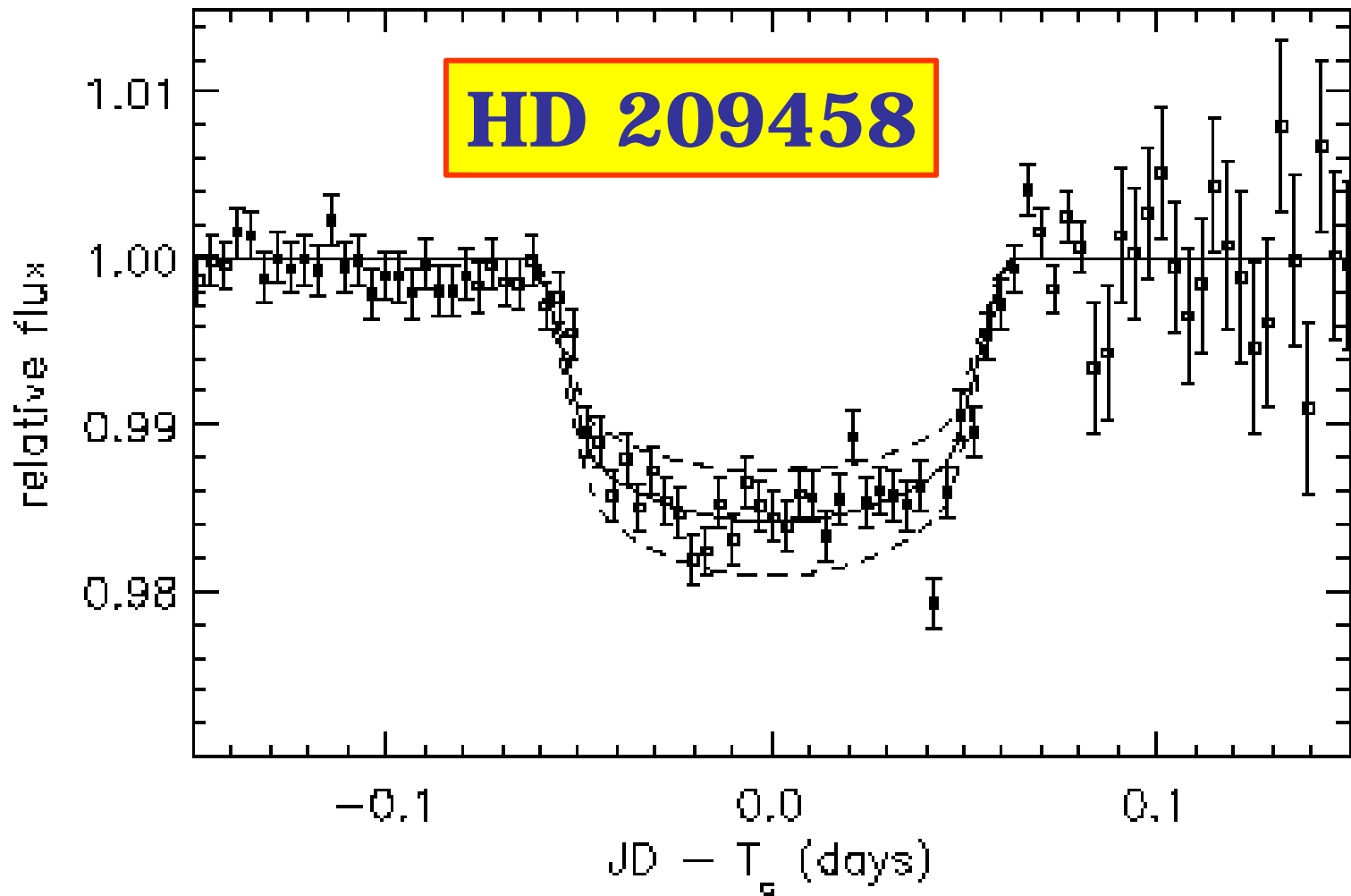




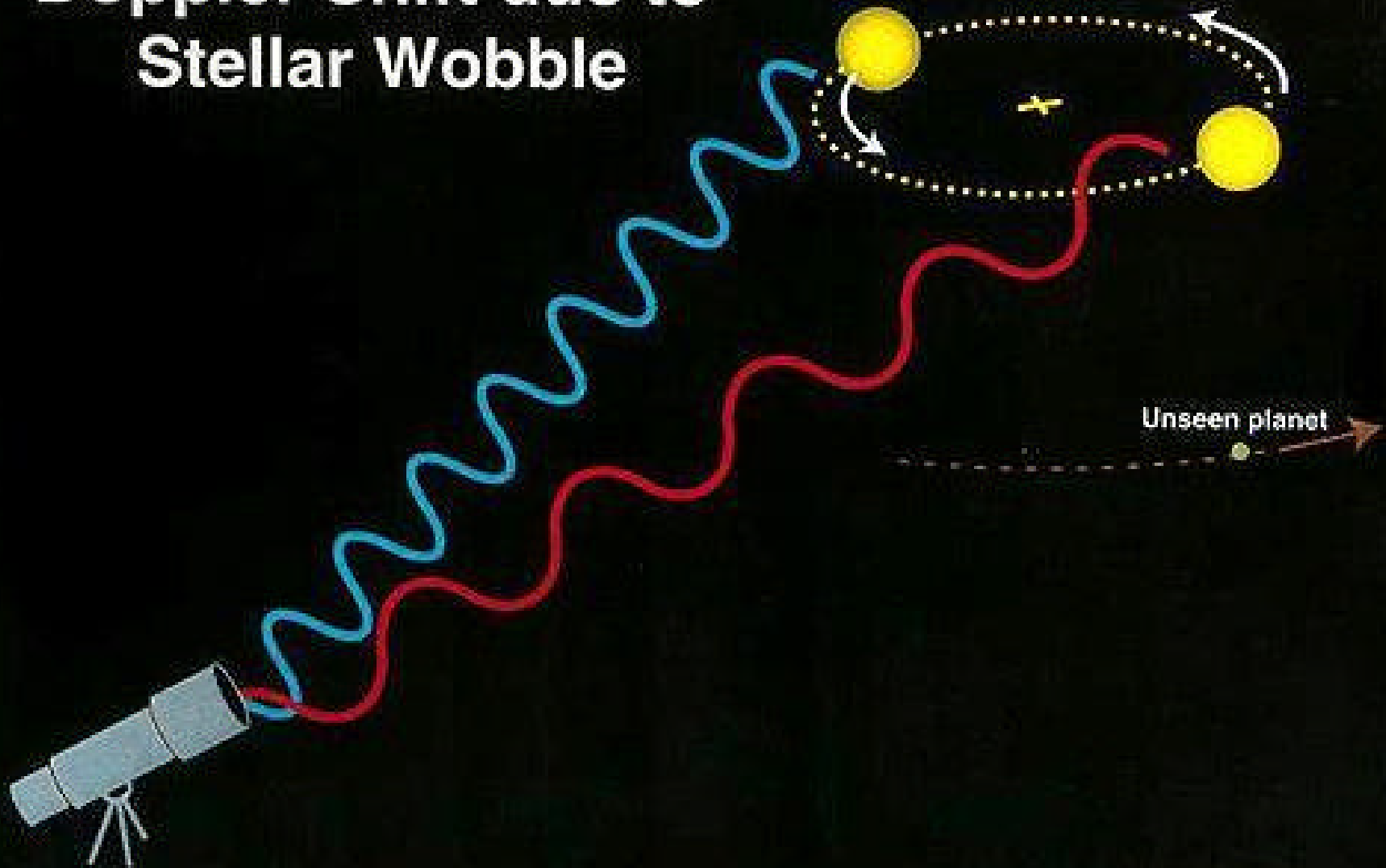
© Hans Deeg

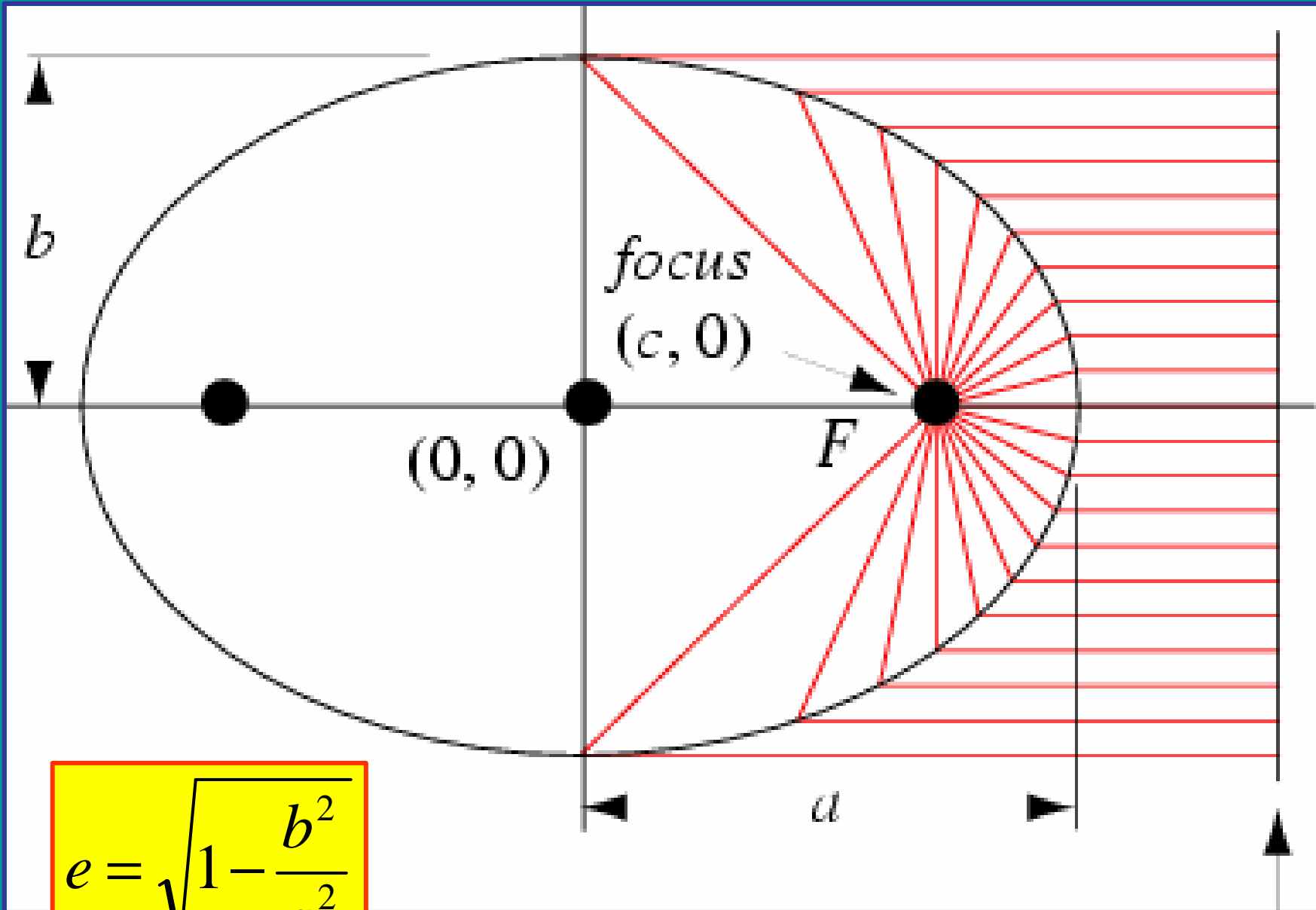
OGLE-TR-113 P=1.43250 (days)





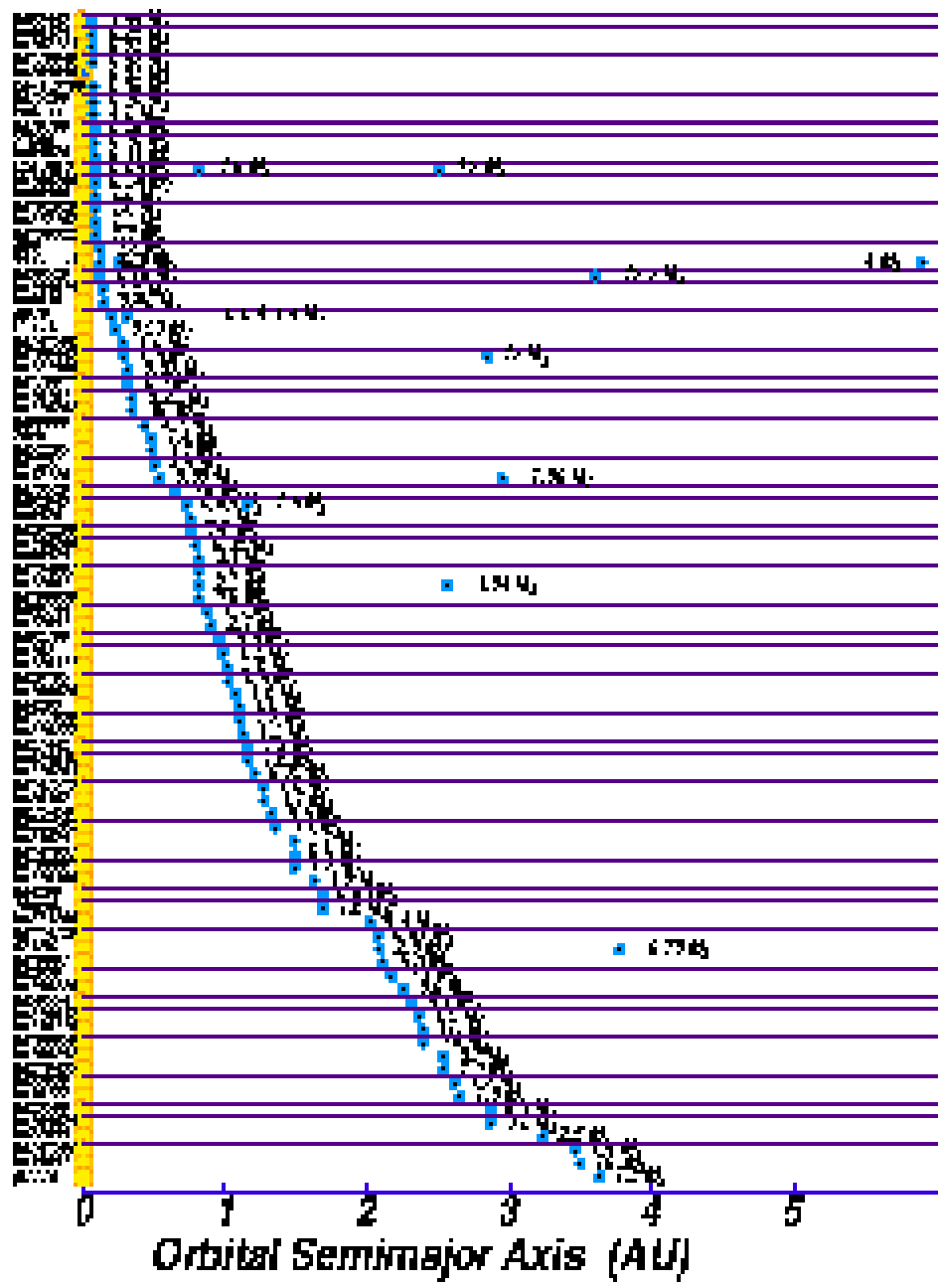
Doppler Shift due to Stellar Wobble



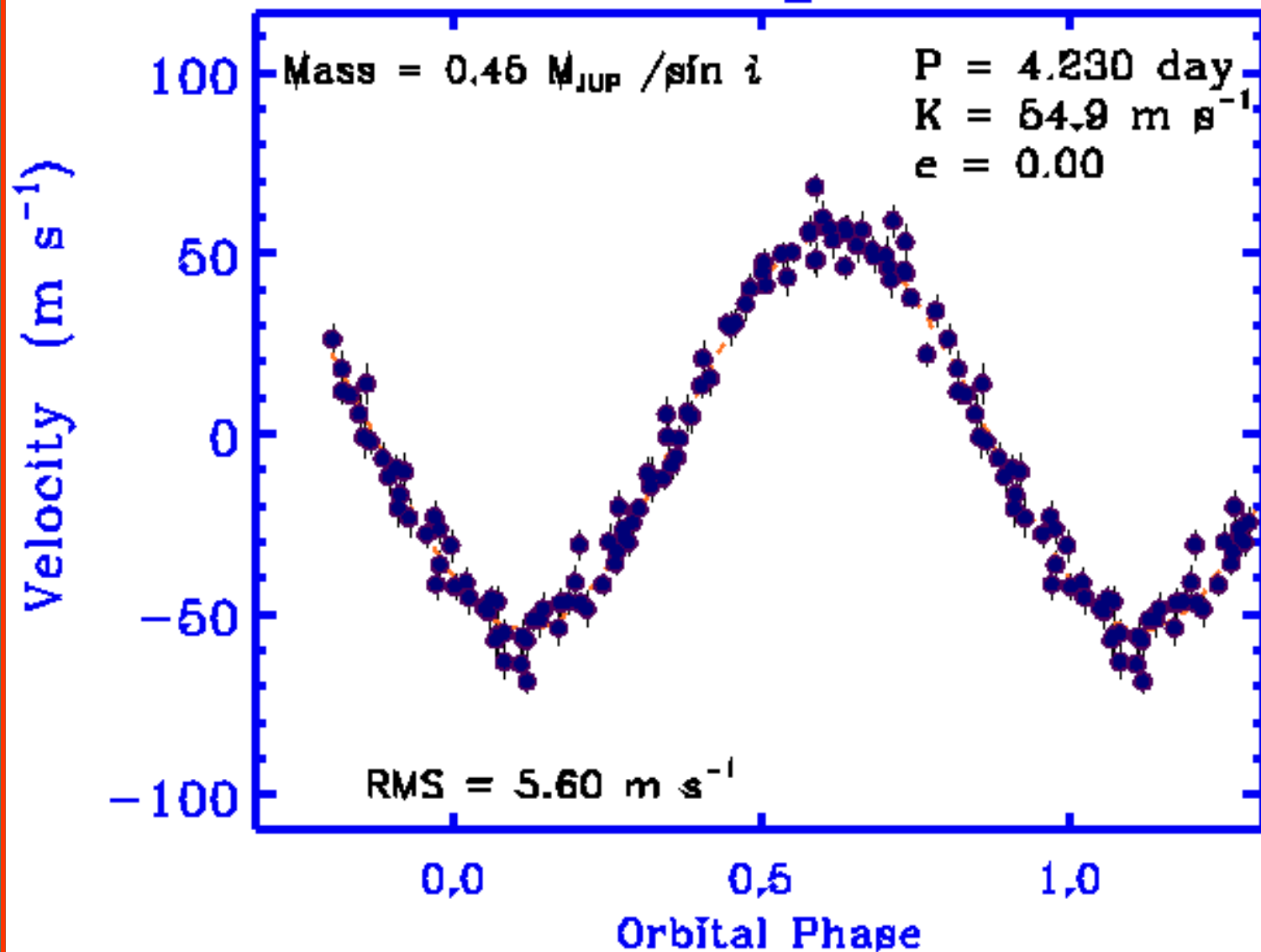


$$e = \sqrt{1 - \frac{b^2}{a^2}}$$

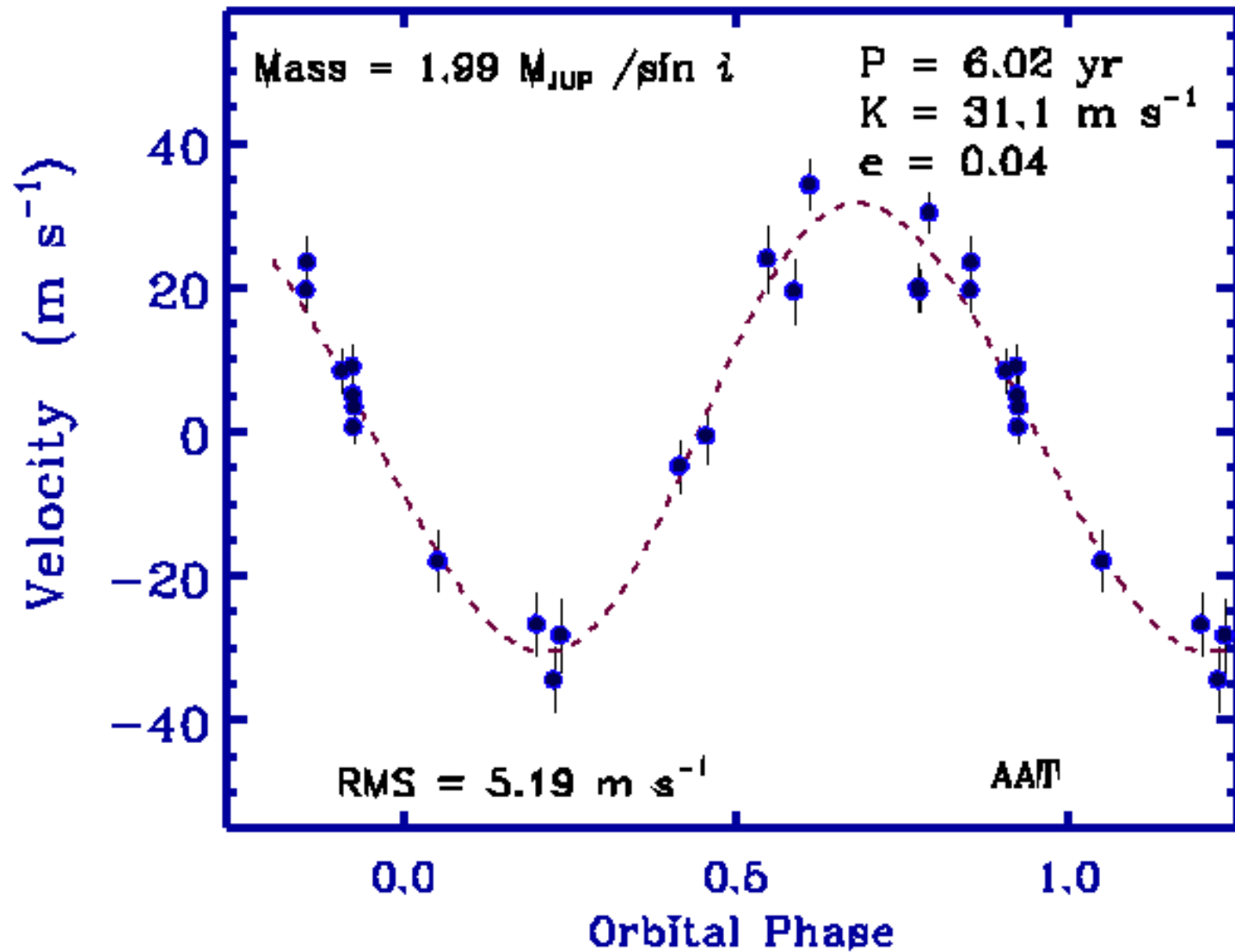
Il primo pianeta extrasolare venne scoperto nel 1995 da Mayor e Queloz, all'Osservatorio di Ginevra, intorno alla stella 51 Pegasi. Ora sono oltre 110 i sistemi planetari extrasolari scoperti (in media se ne scopre 1 al mese).

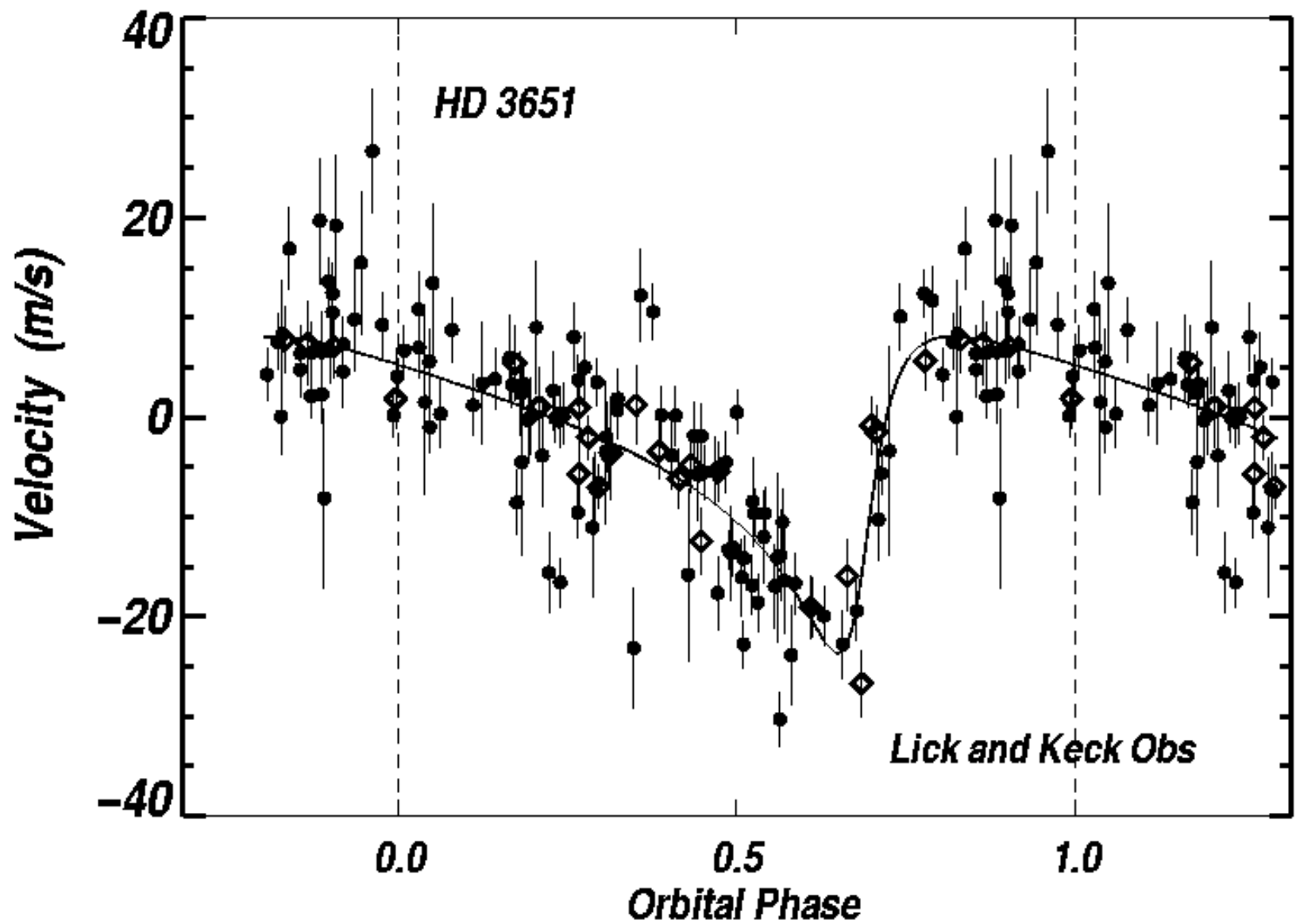


51 Pegasi

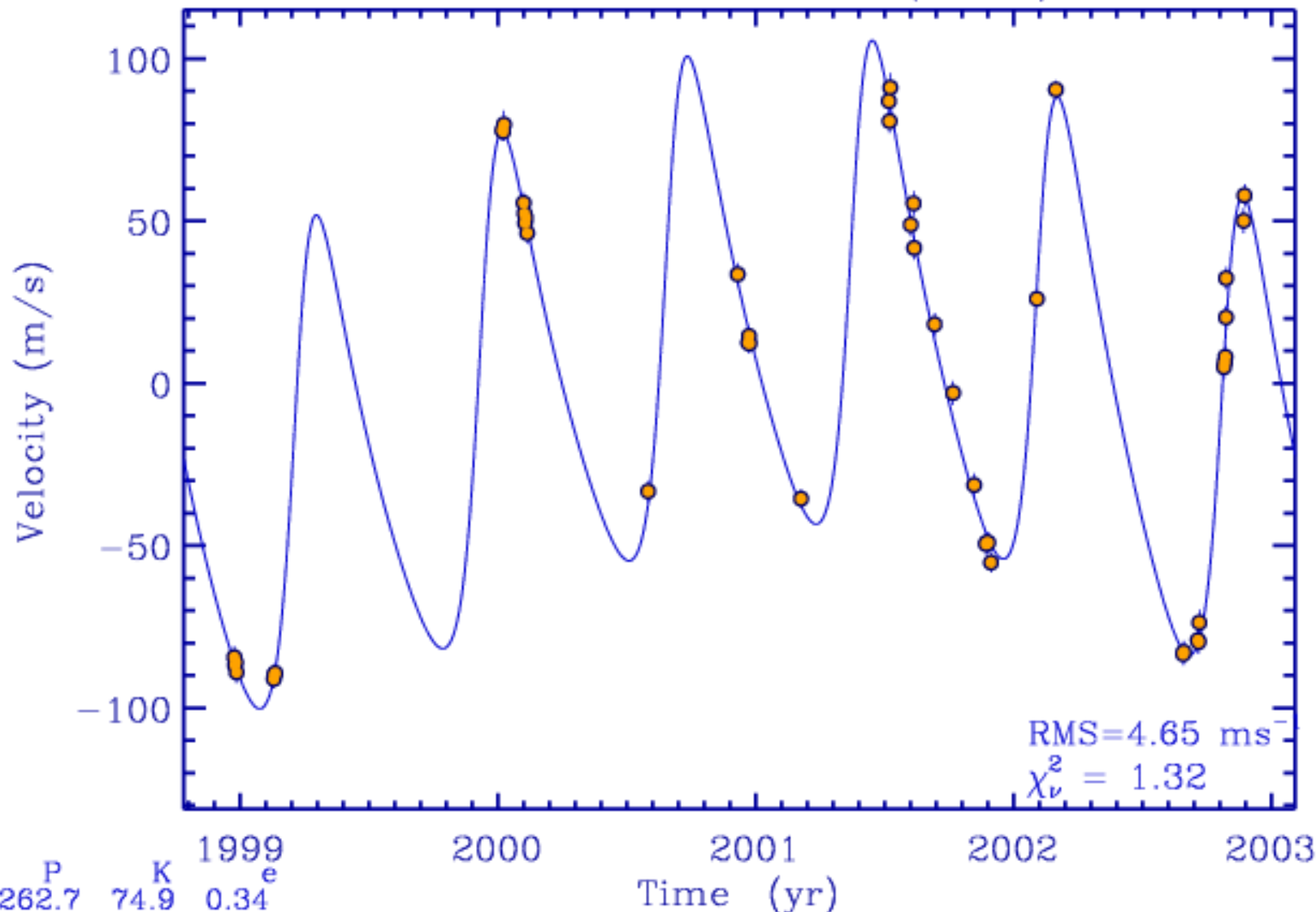


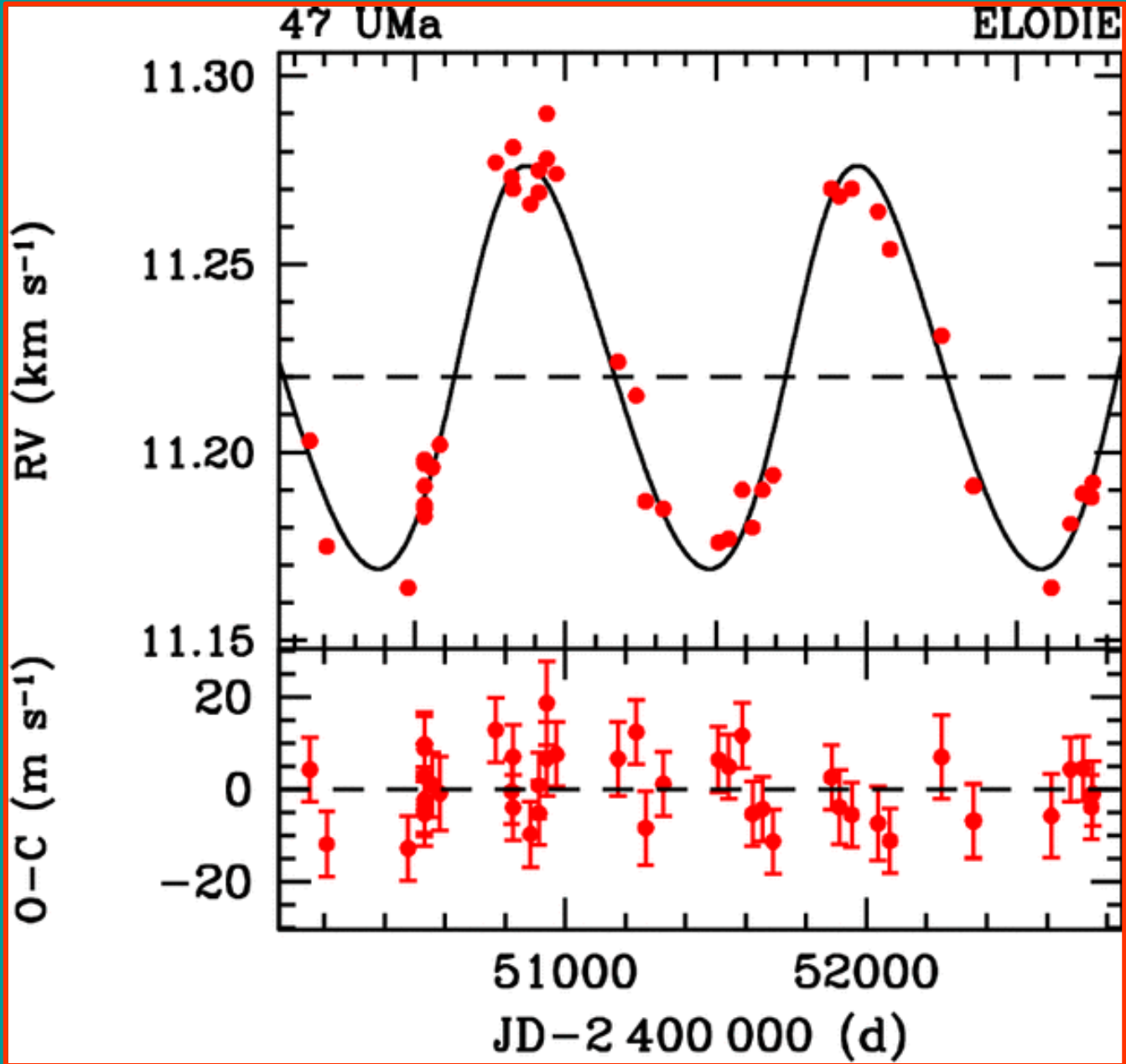
HD 70642

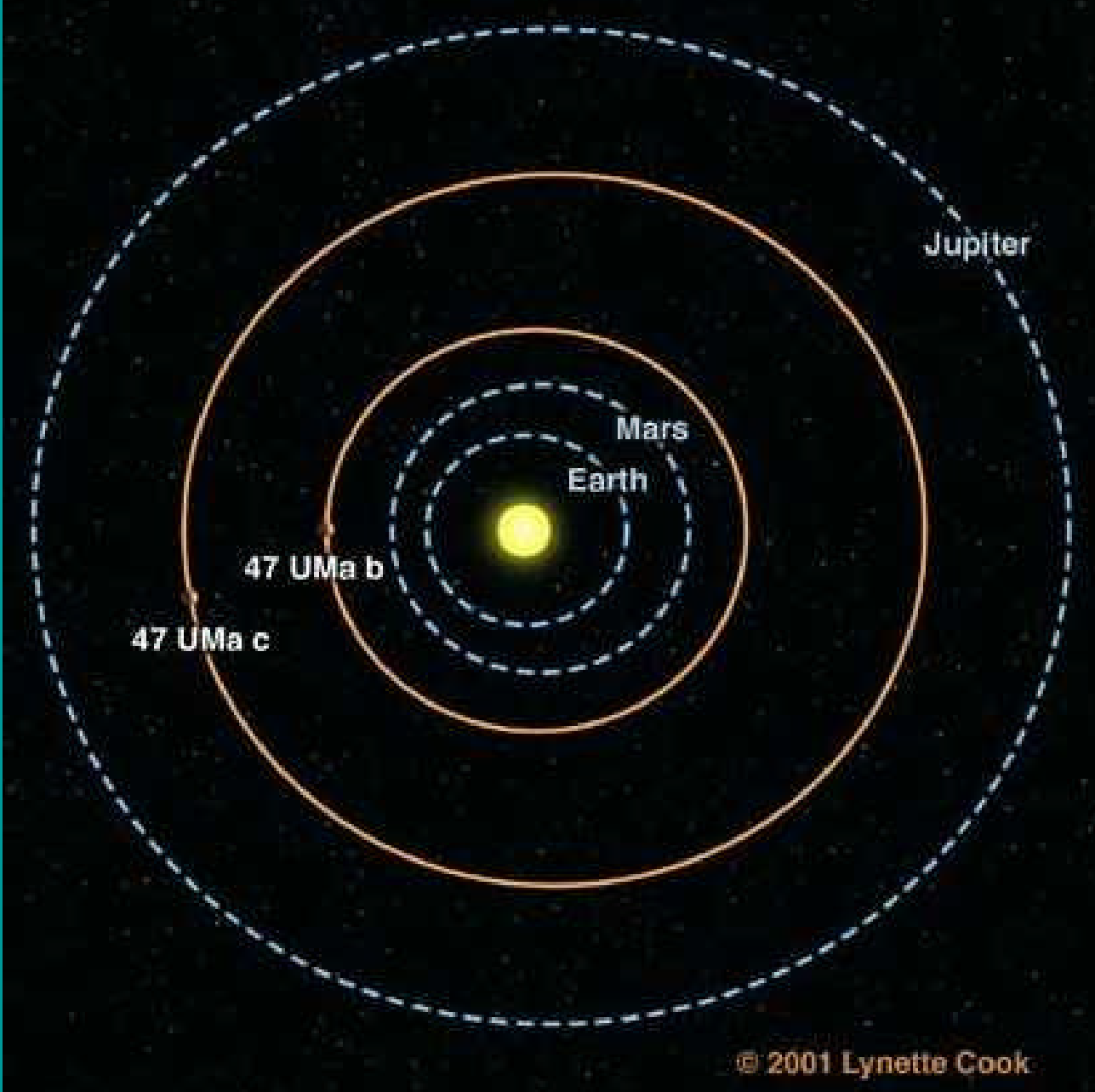




HD 12661 (Keck)

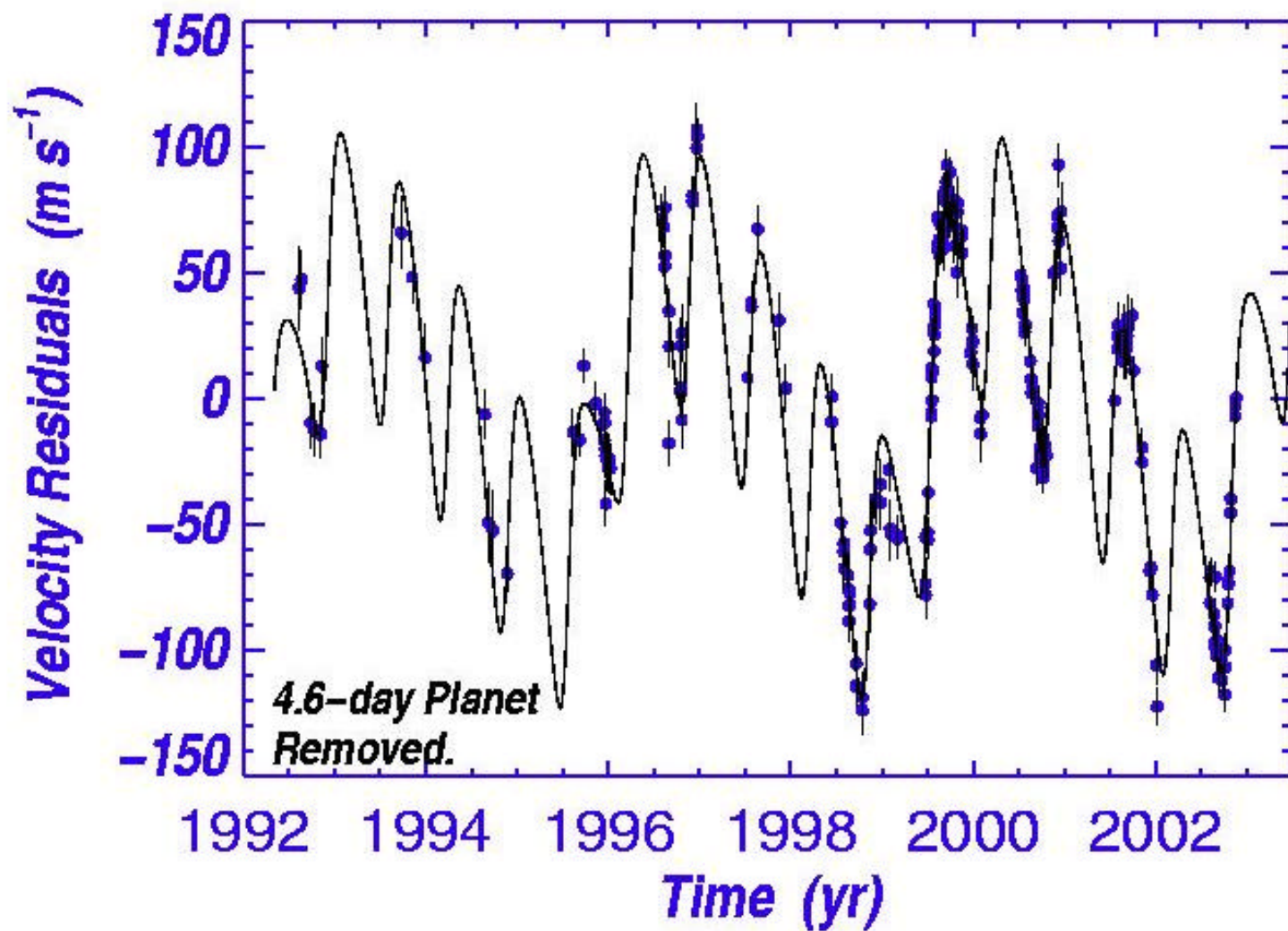




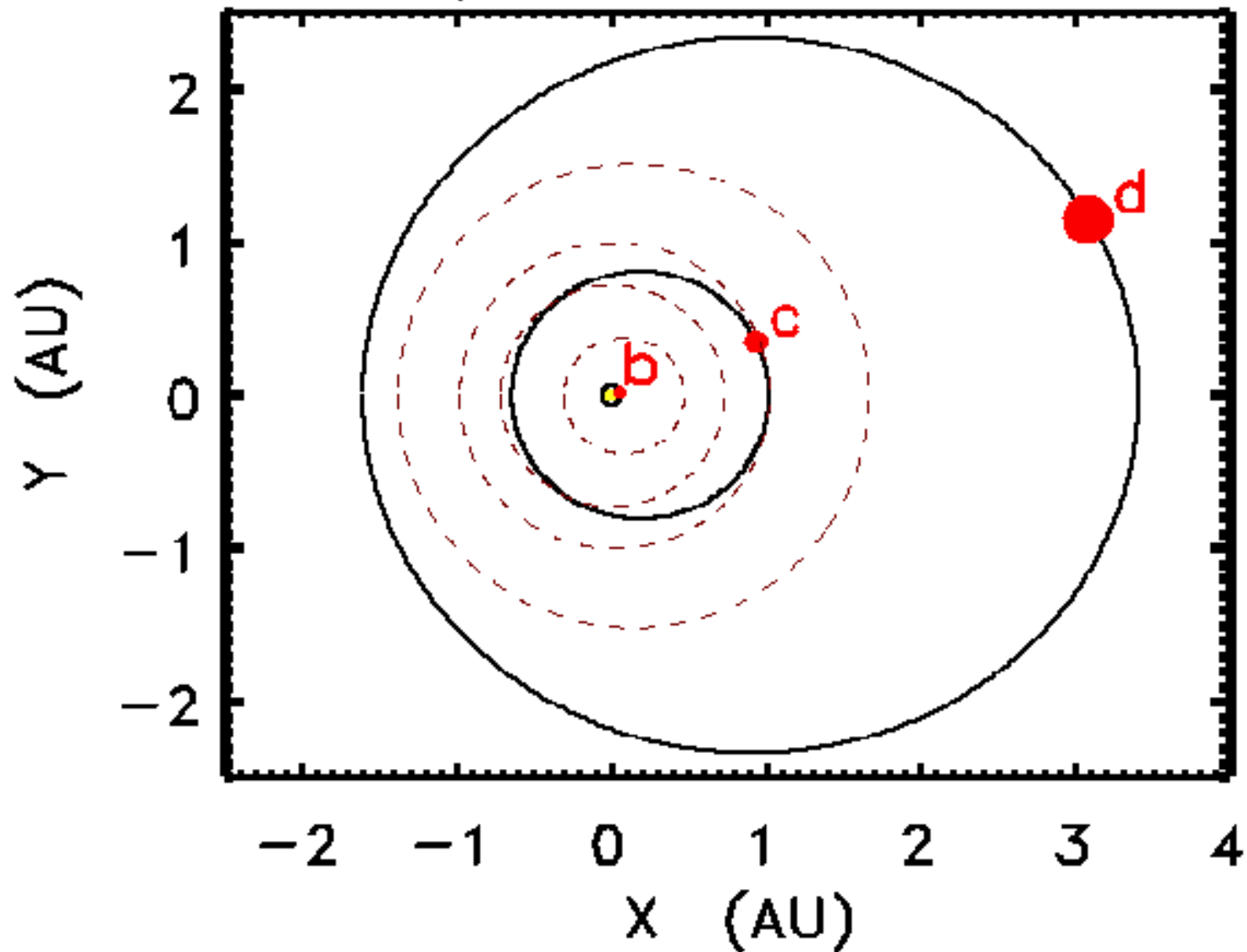


© 2001 Lynette Cook

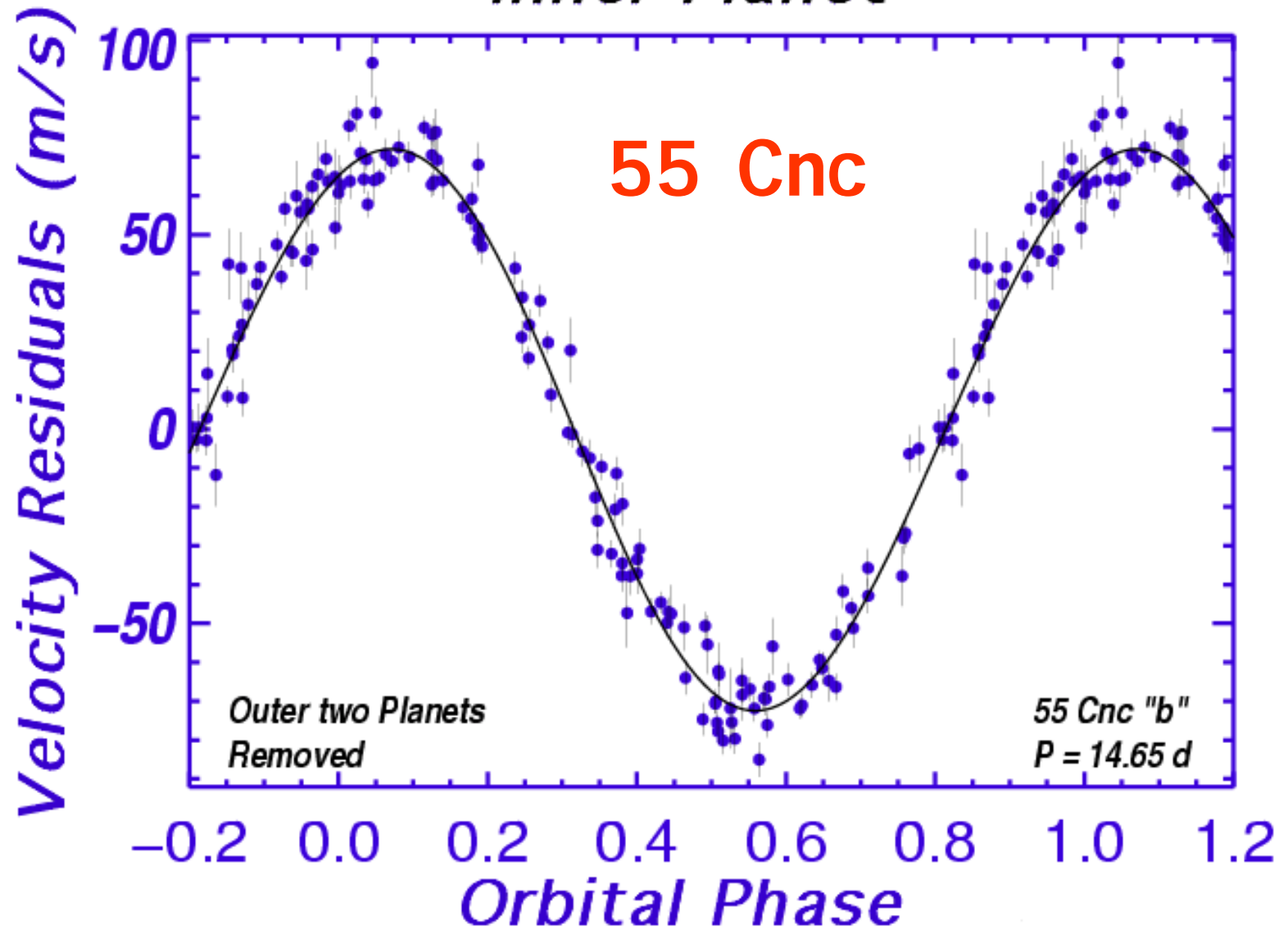
Upsilon Andromedae



Upsilon Andromedae

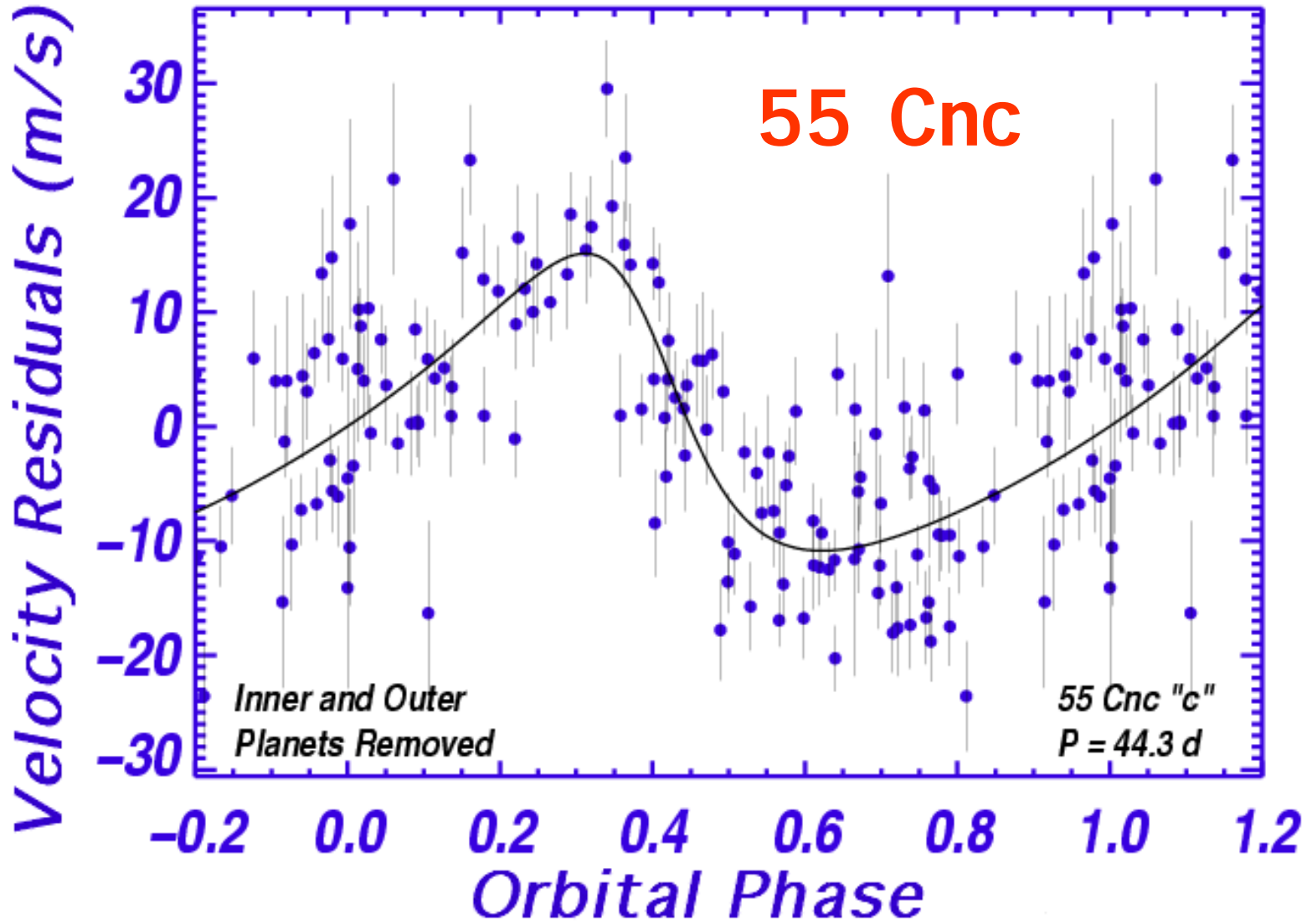


Inner Planet

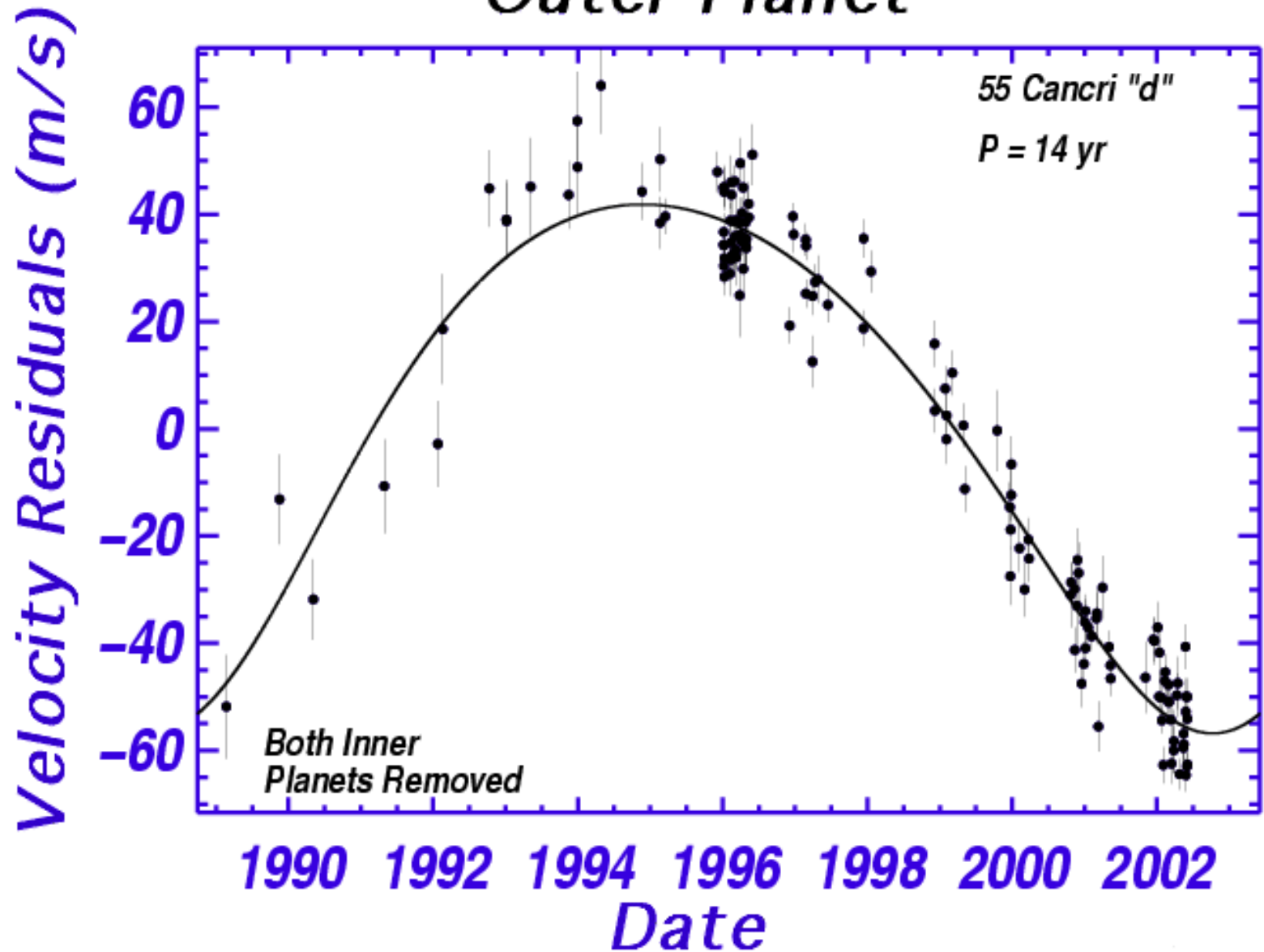


Middle Planet

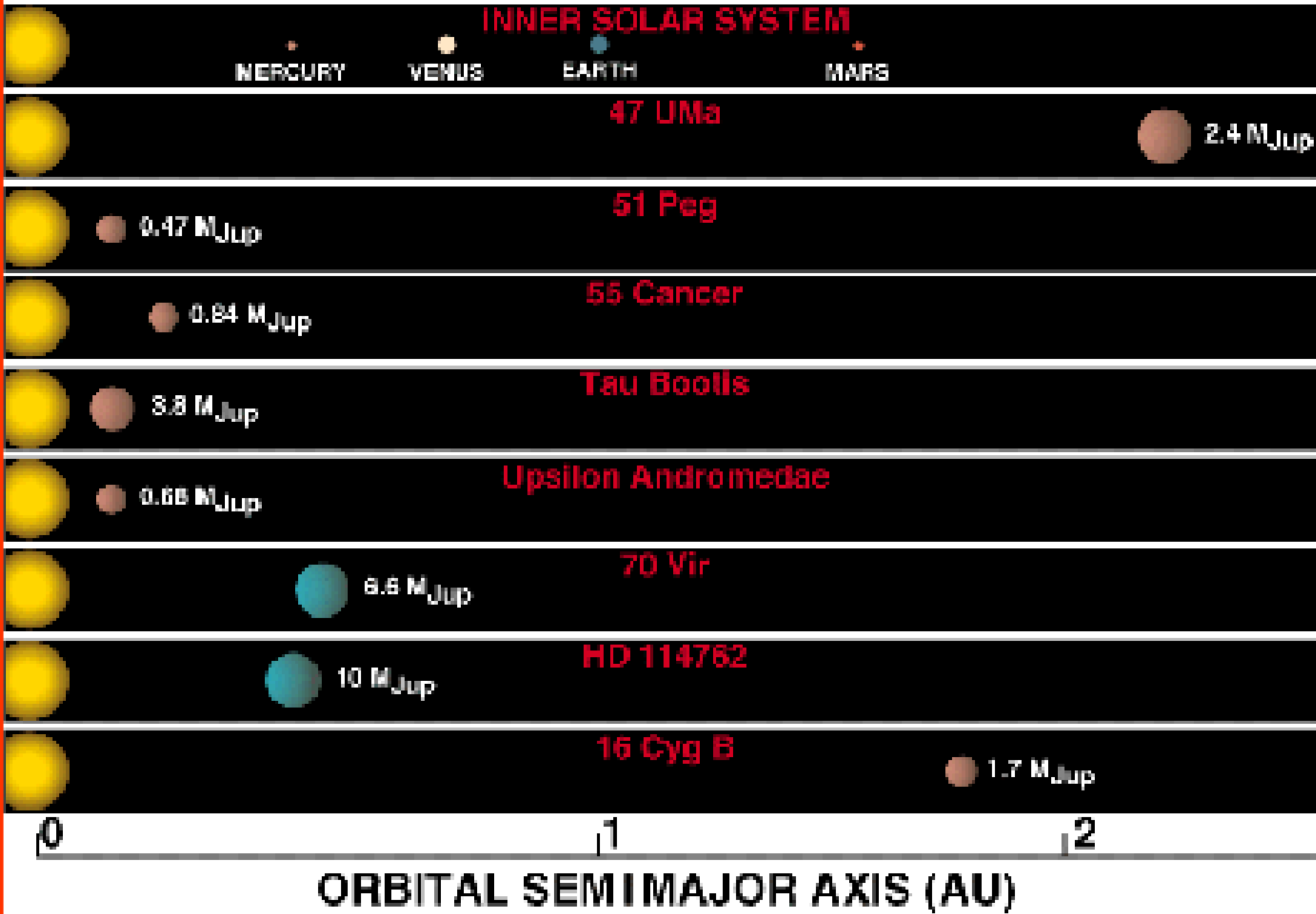
55 Cnc



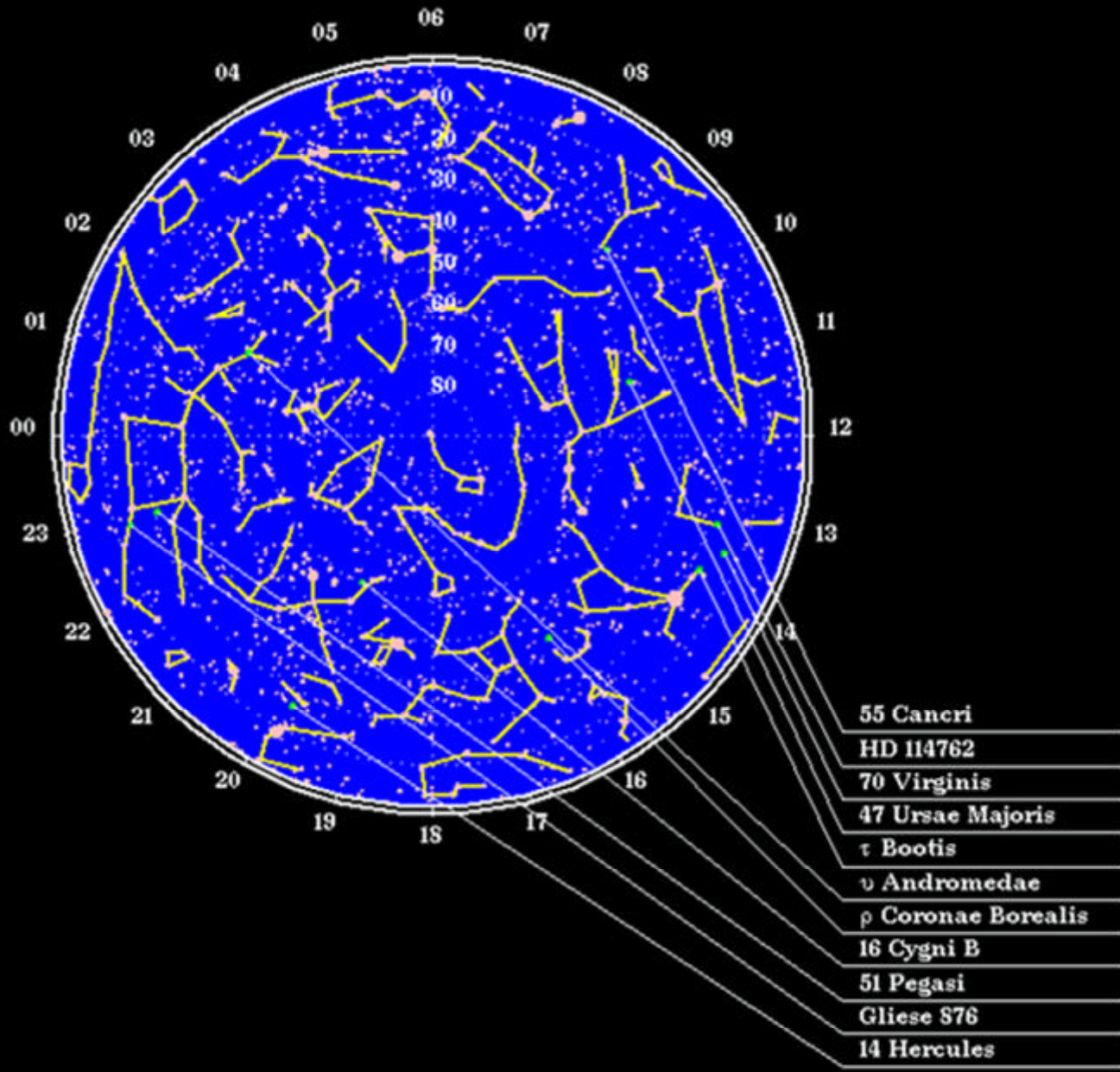
Outer Planet

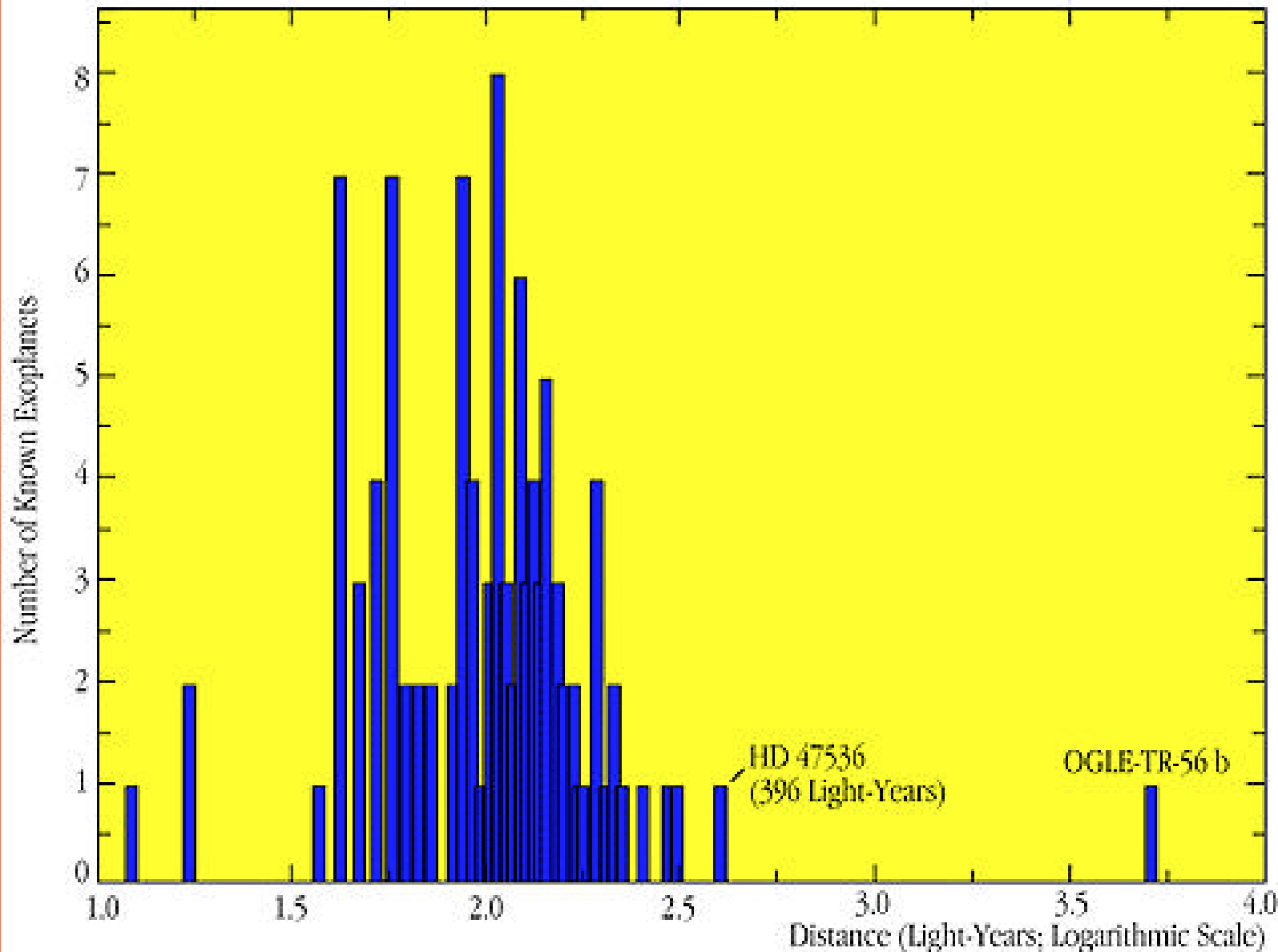


PLANETS AROUND NORMAL STARS



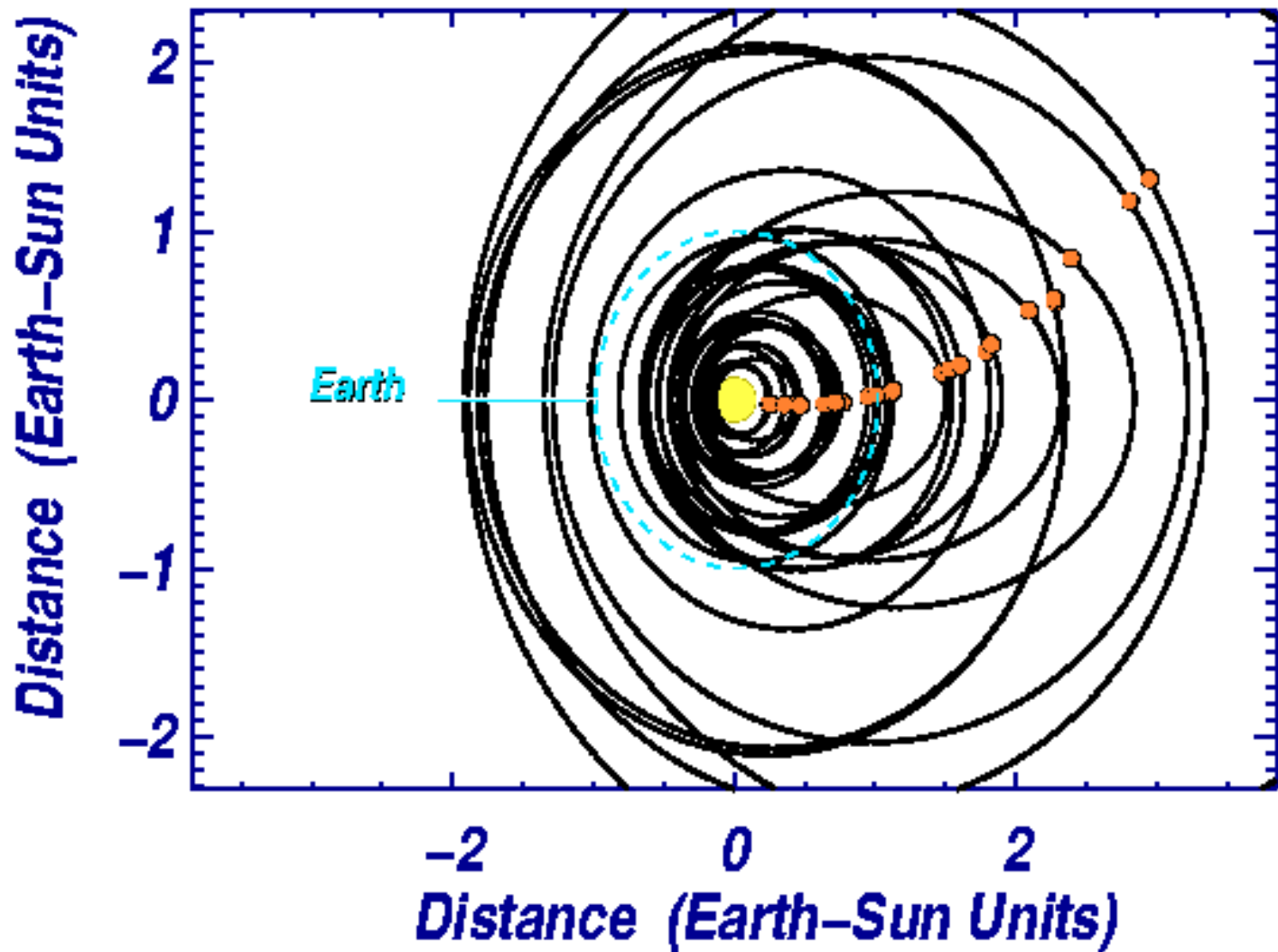
They are everywhere!



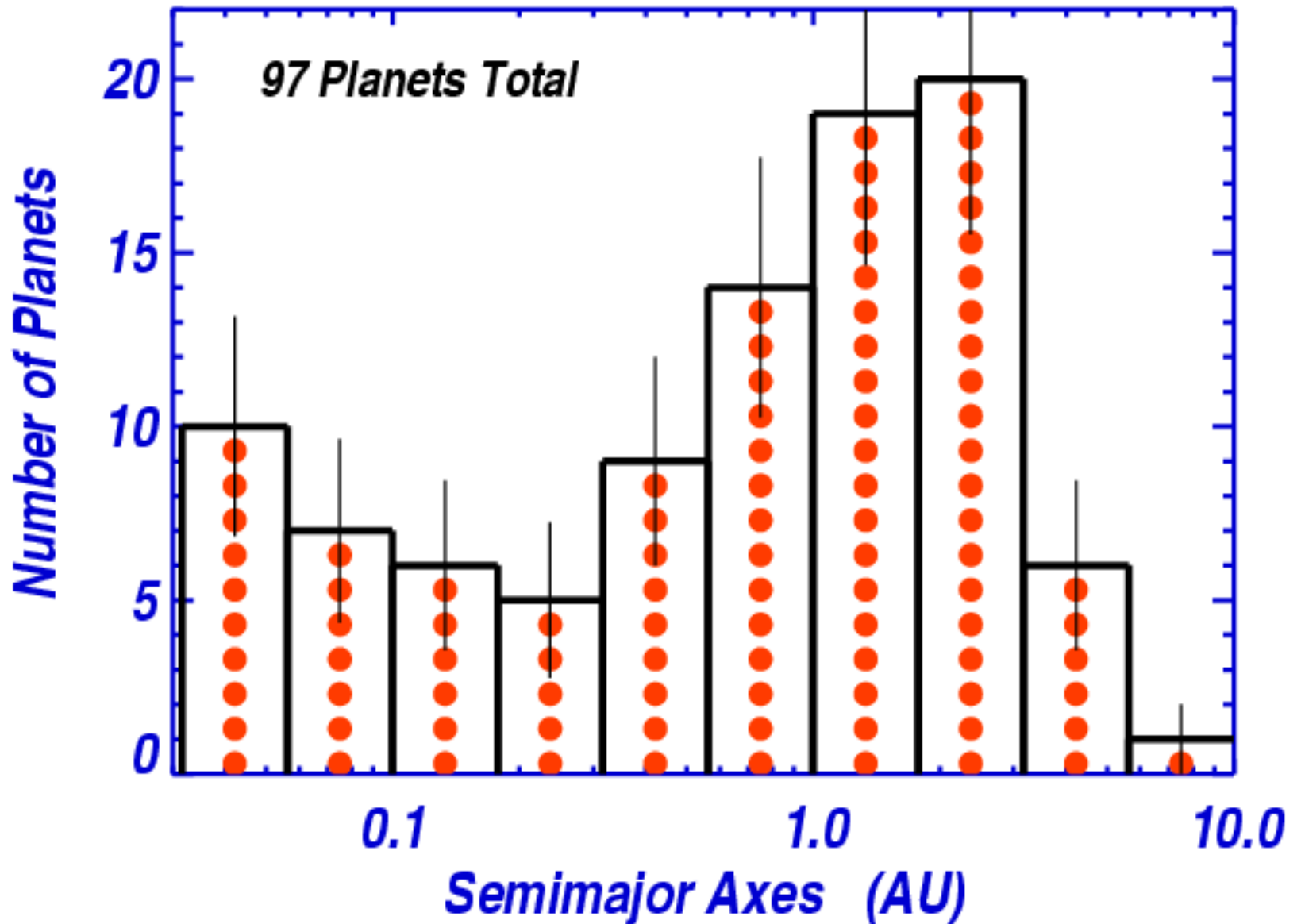


Distribution of Exoplanet Distances

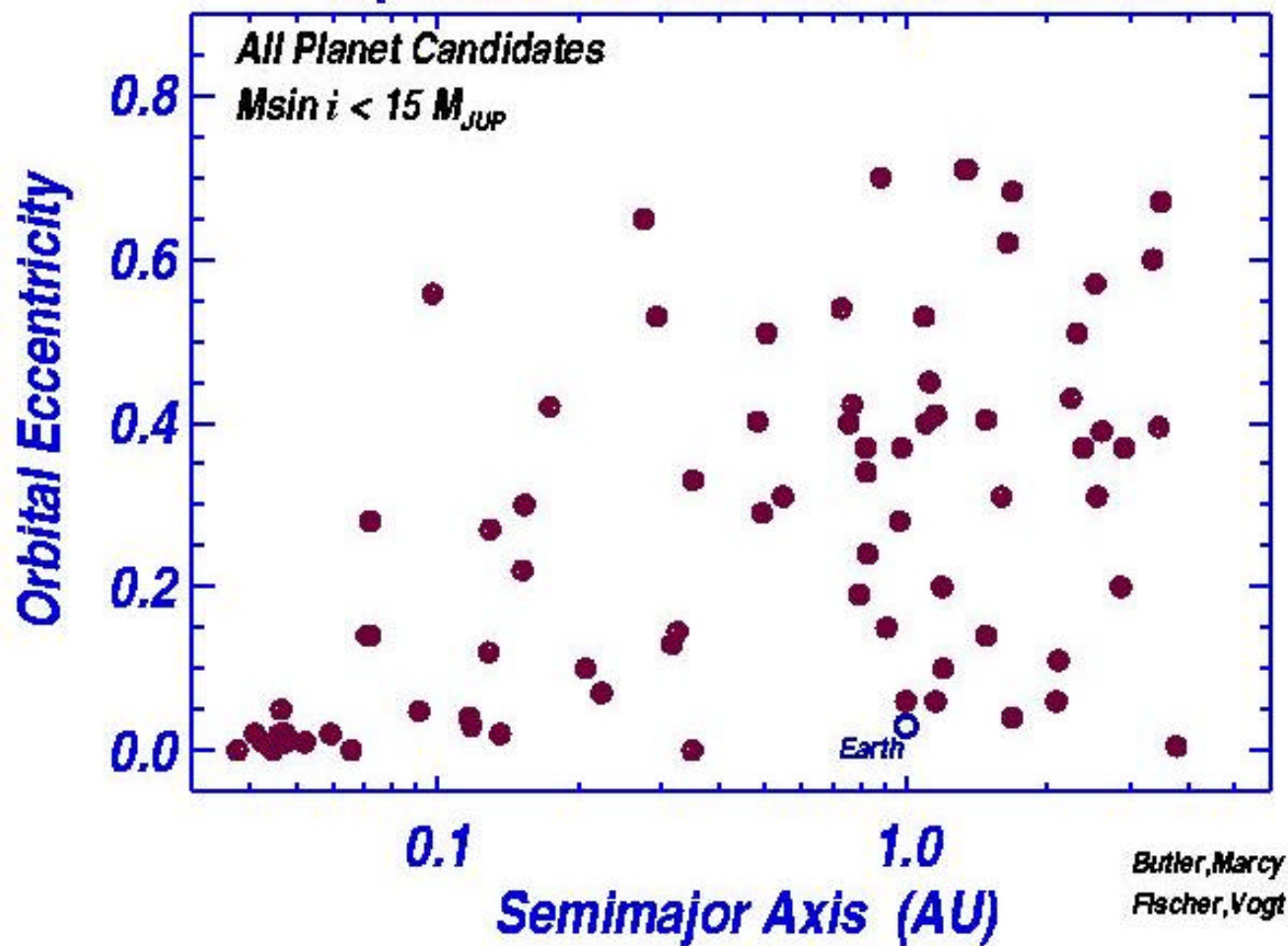
Orbits of Extrasolar Planets



Histogram of Semimajor Axes

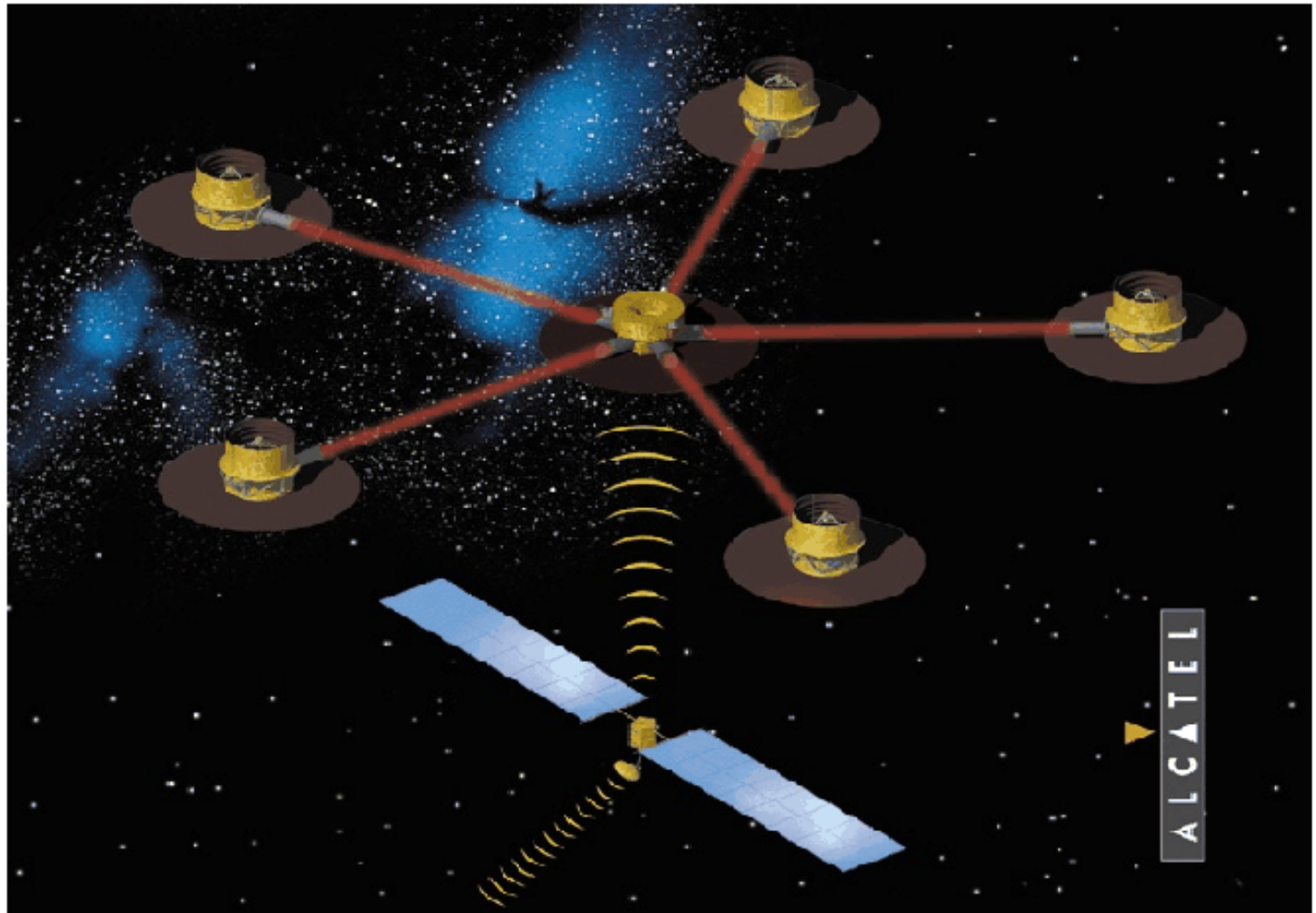


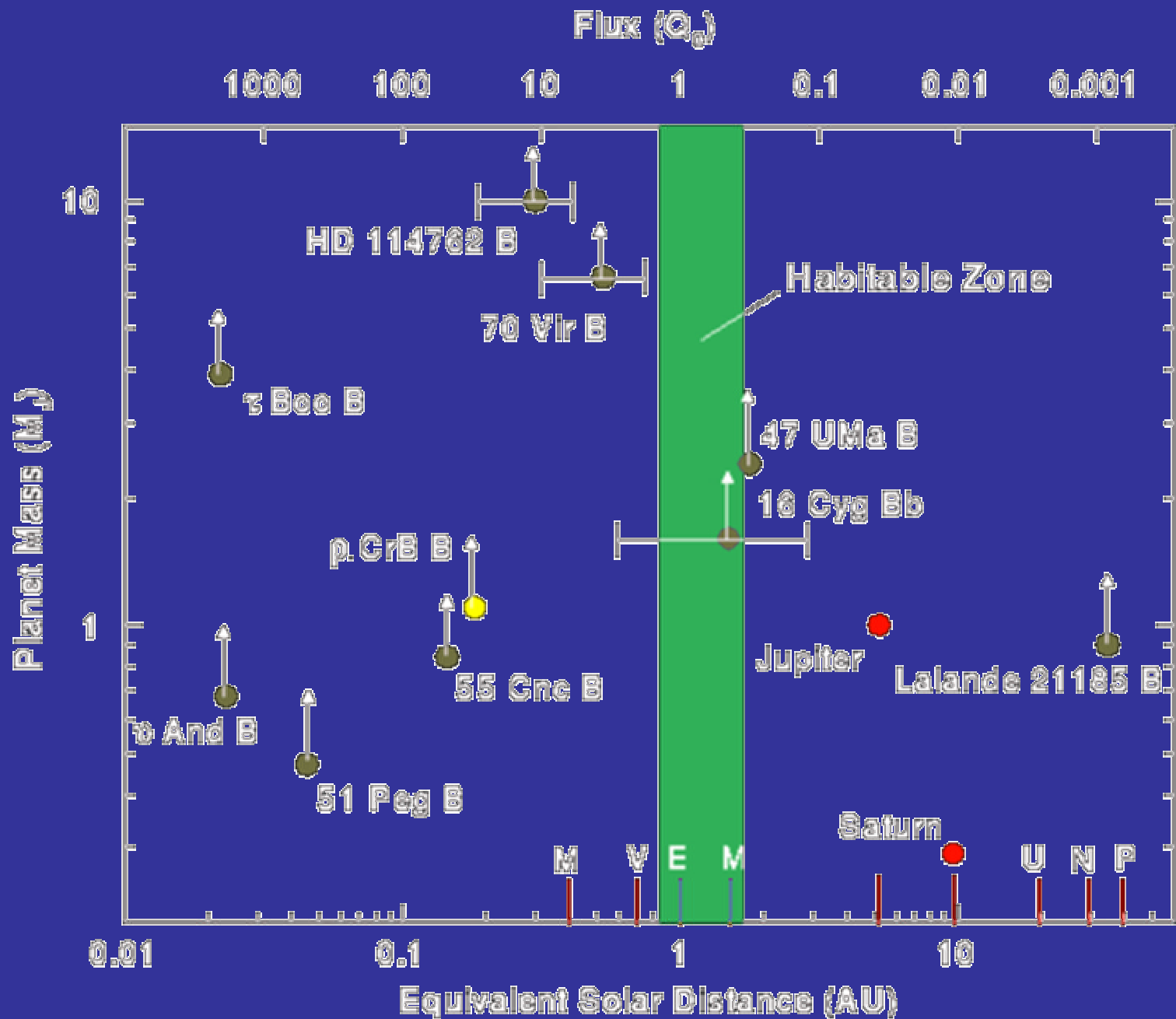
Ellipticities of Extrasolar Planet Orbits





Alcatel IRSI Free-flyer concept





Equazione di Drake

$$N = R_* F_P N_T F_V F_i F_C L$$

- N e' il numero di civiltà con cui si potrebbe comunicare,
- R_* e' il ritmo di formazione di stelle adatte,
- F_P la frazione di queste stelle con pianeti,
- N_T e' il numero di "Terre" per sistema planetario,
- F_V la frazione in cui si e' sviluppata la vita,
- F_i e' la frazione di questi pianeti in cui la vita e' divenuta "intelligente",
- F_C e' la frazione di essi in cui si e' sviluppata la tecnologia delle comunicazioni,
- L e' la durata della vita intelligente.