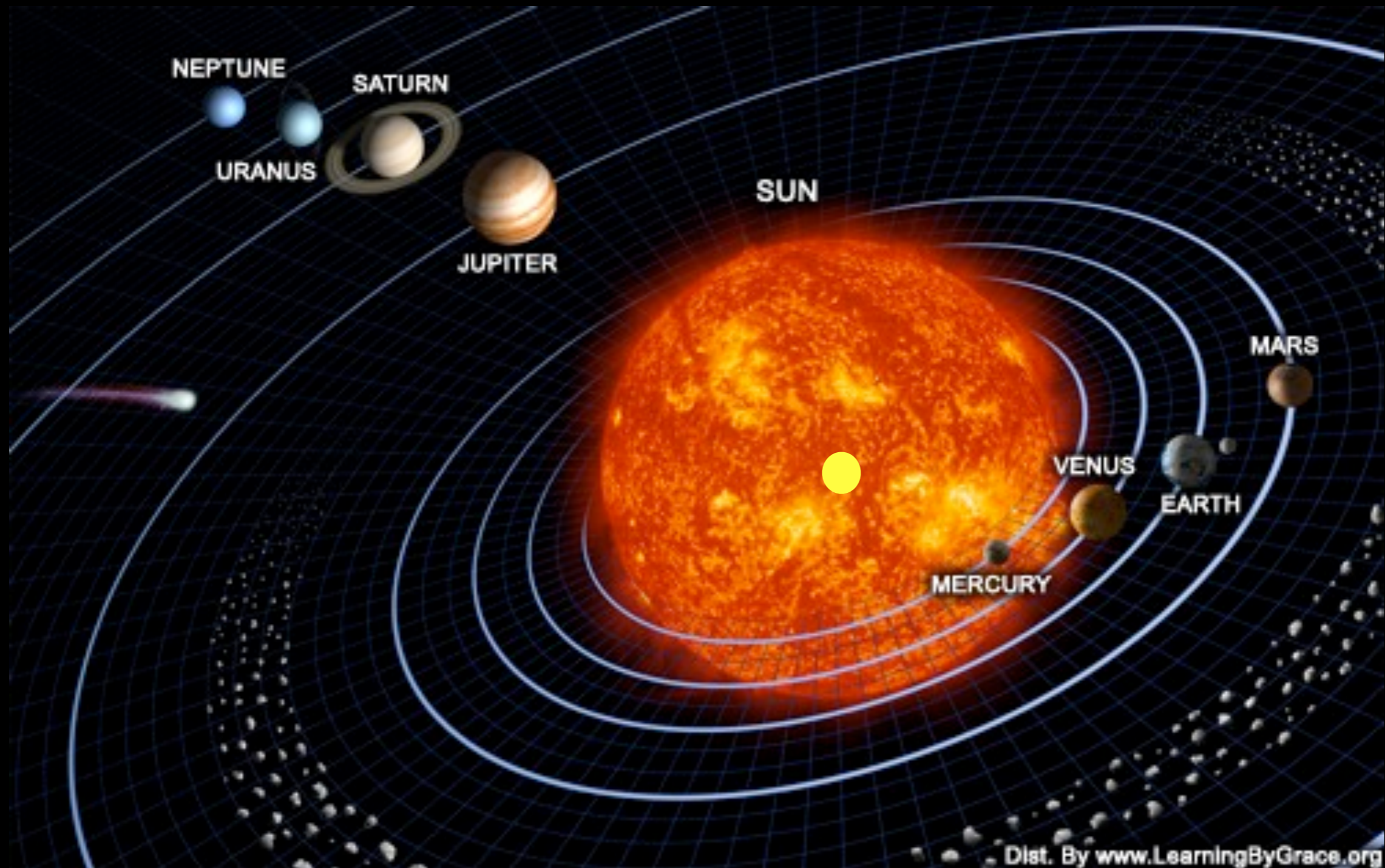


Extra-solar Planets



Planets in the Solar System:

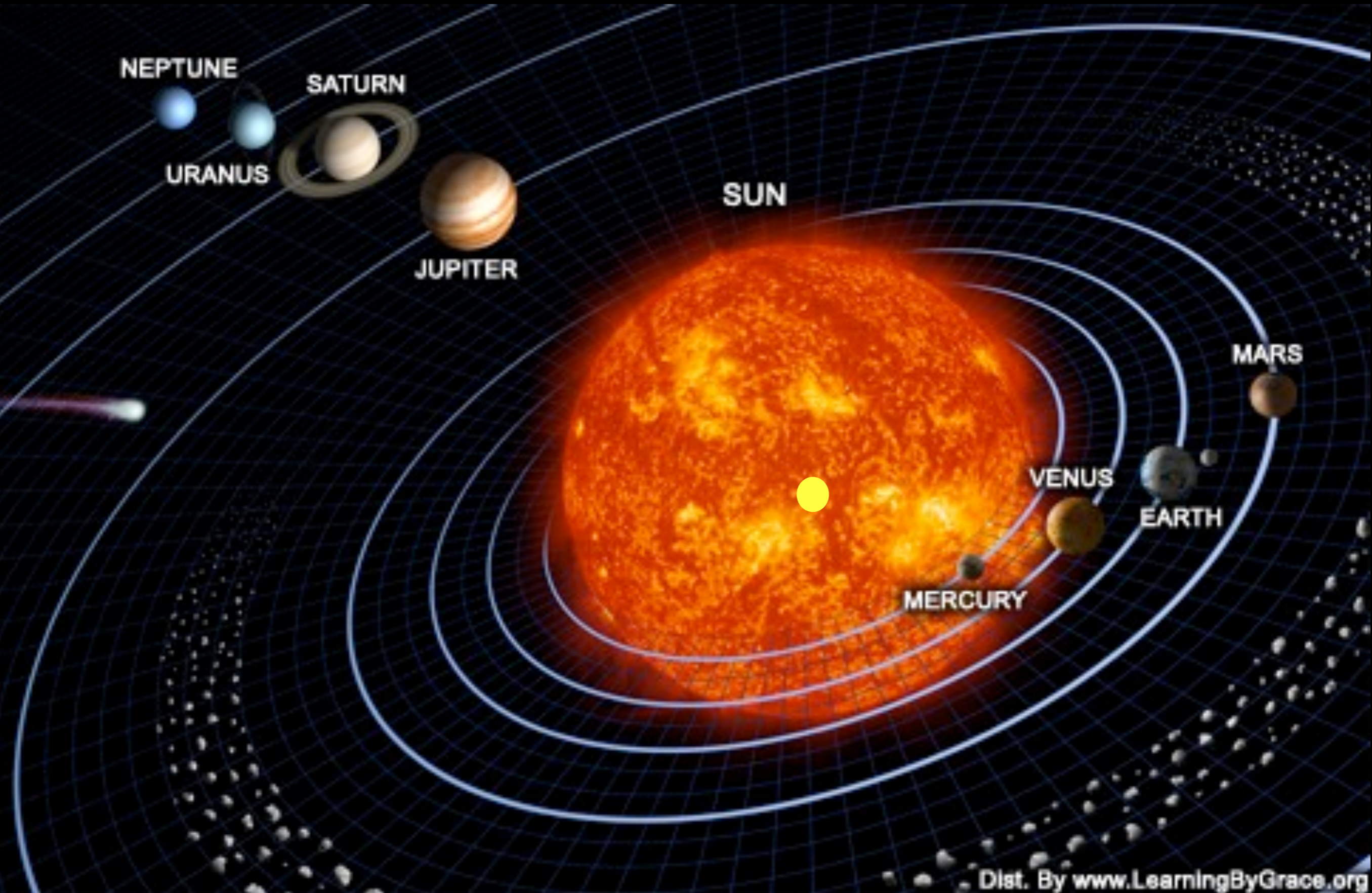
Uranus discovered 1781

Neptune 1846

Pluto 1930

all other planets known since antiquity

size of sun/orbit not to scale

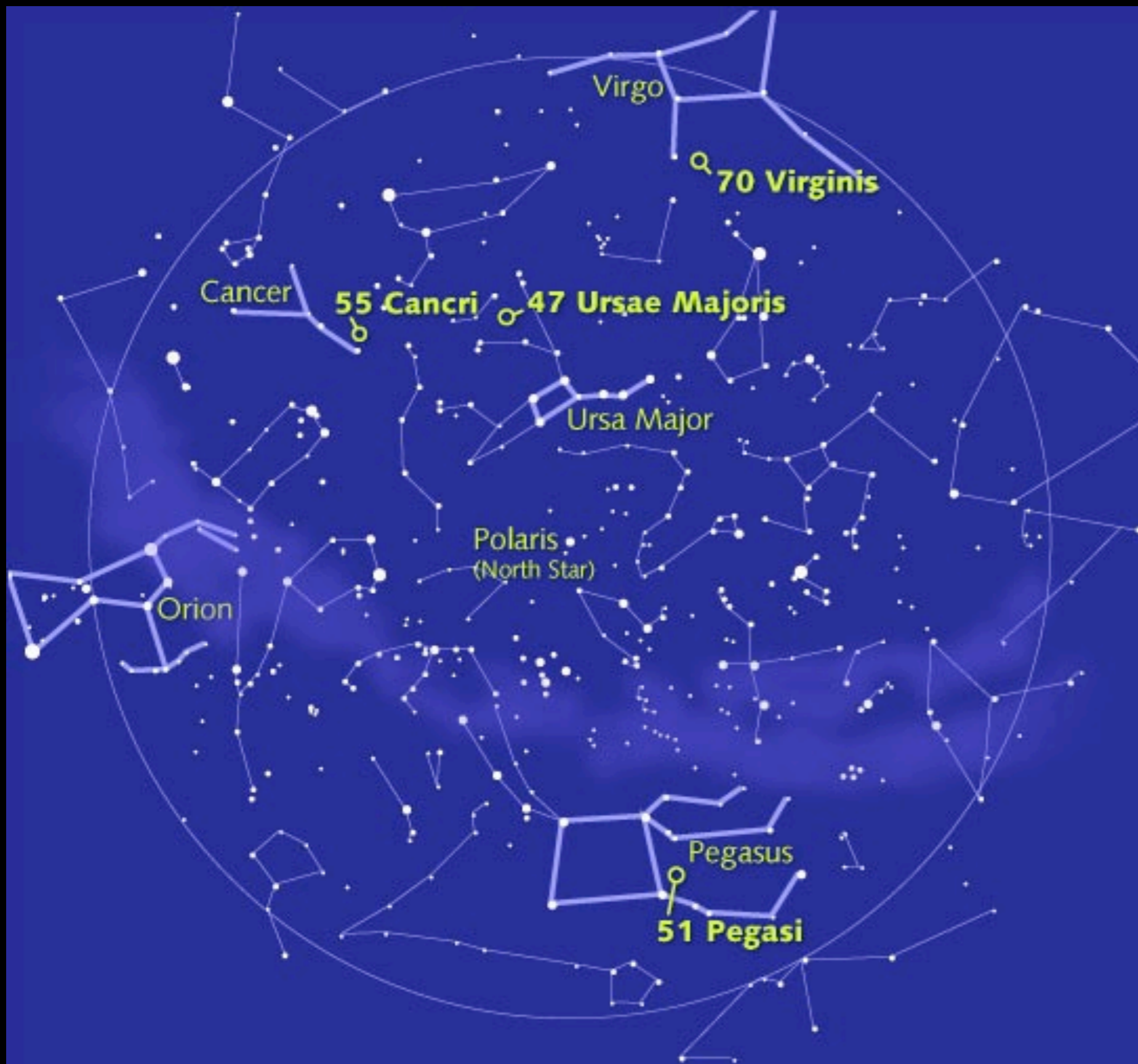


Dist. By www.LearningByGrace.org

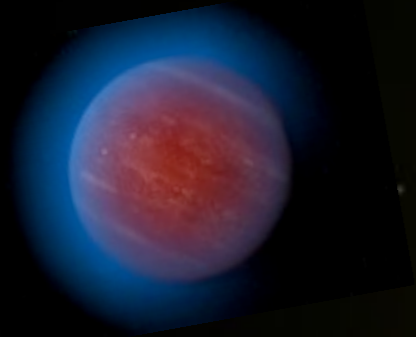
We know about our
own backyard. What
about elsewhere?

the first extra-solar planet!

1995: Mayor & Queloz (Geneva)



51 Pegasi b



hot jupiter
1000° C

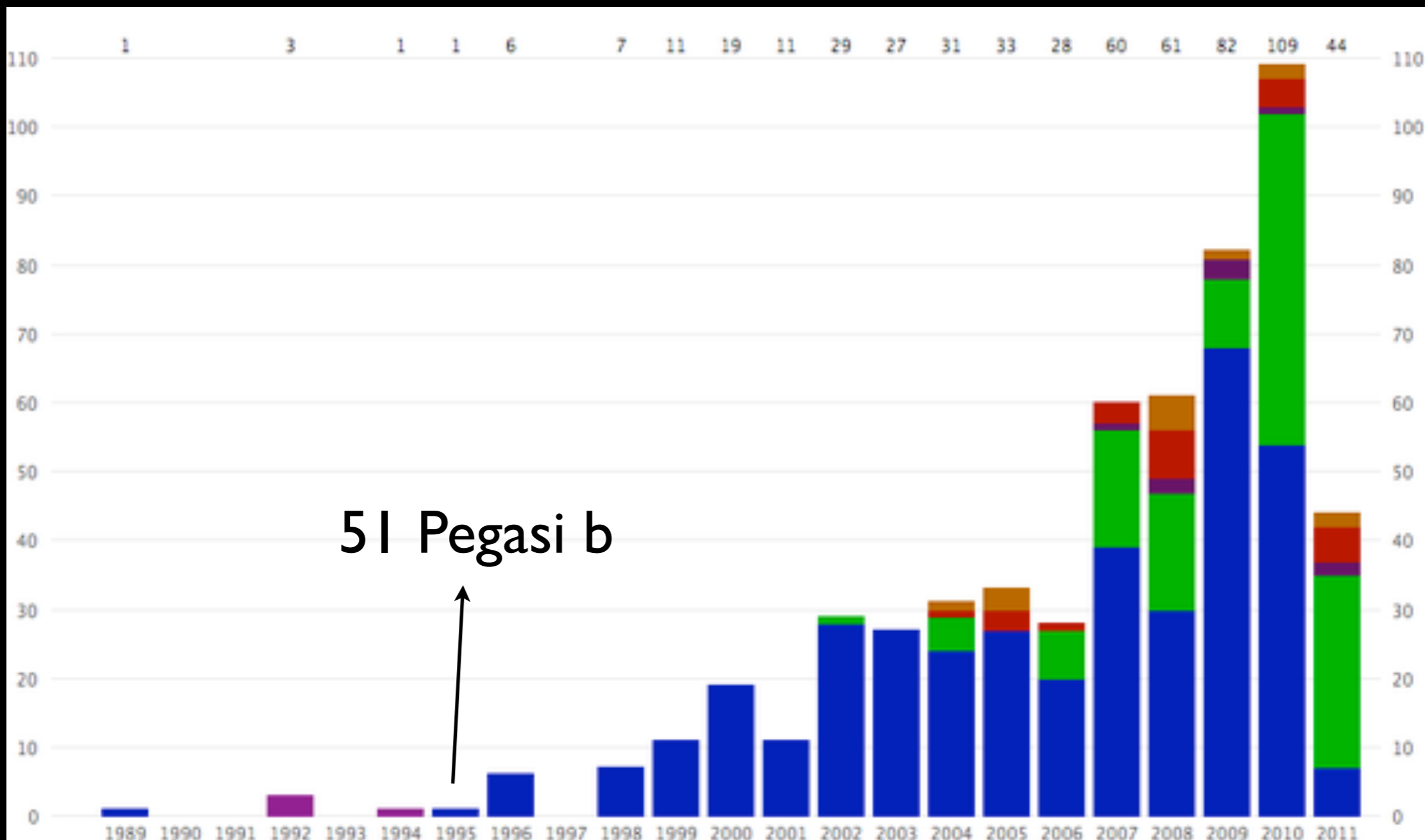
A scaled model:

Mercury: 1 meter

Earth: 3 meters

Jupiter: 15 meters

51 Pegasi b: 15 centimeters



5 I Pegasi b

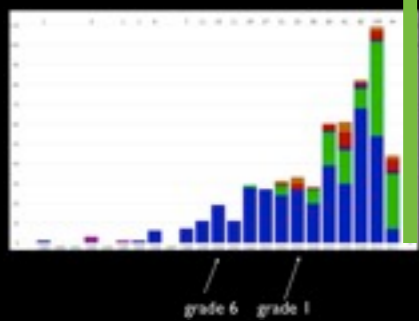


grade 6

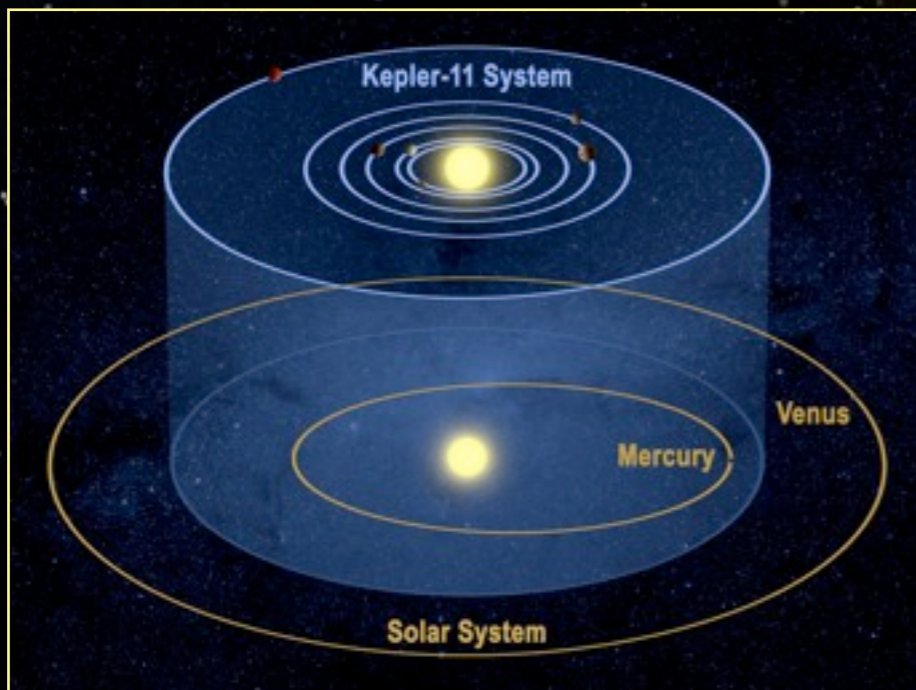
grade 1

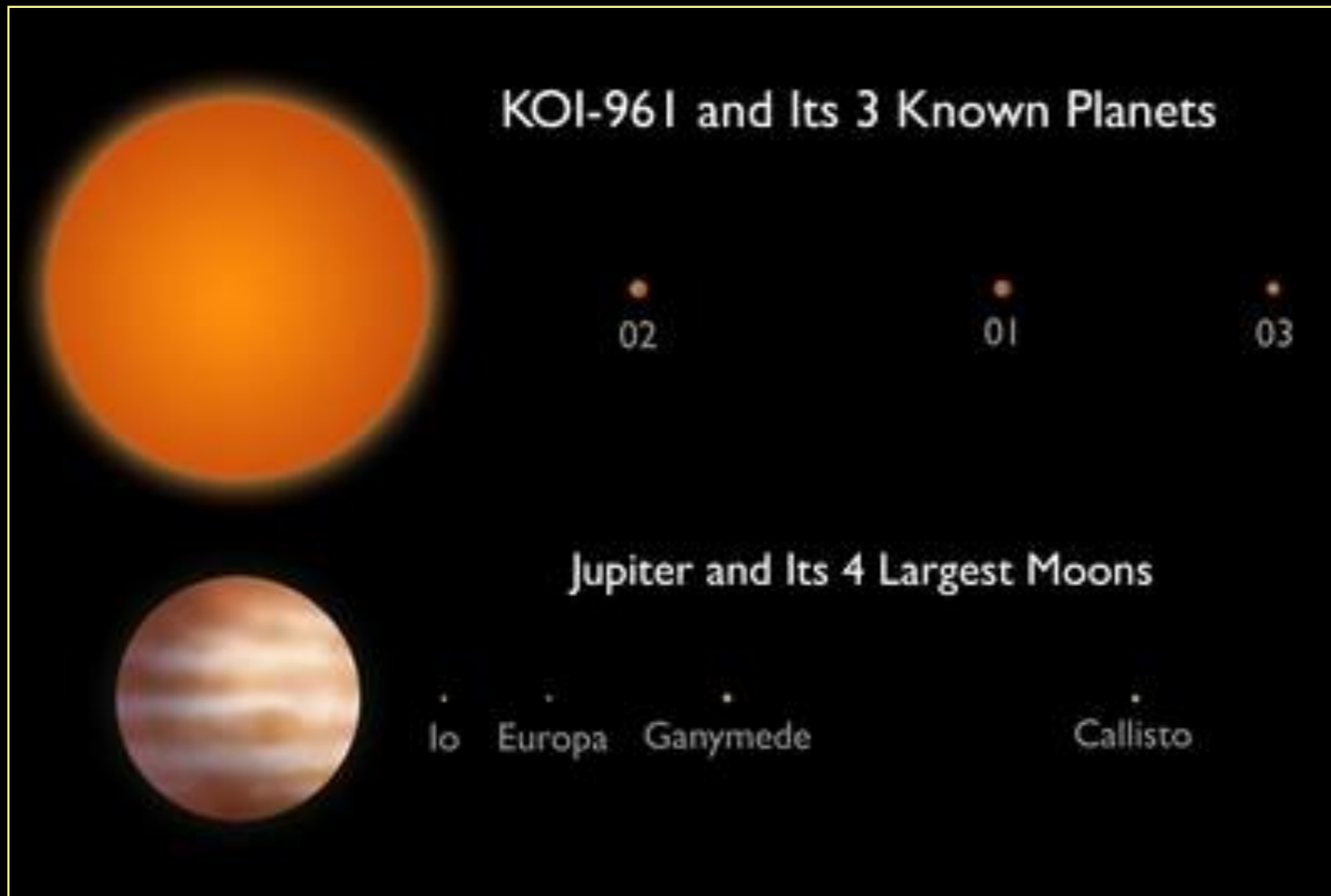


year 2012 2300 planets found



The Kepler-11 planetary system
(6 planets known)
can hold inside the orbit of Venus

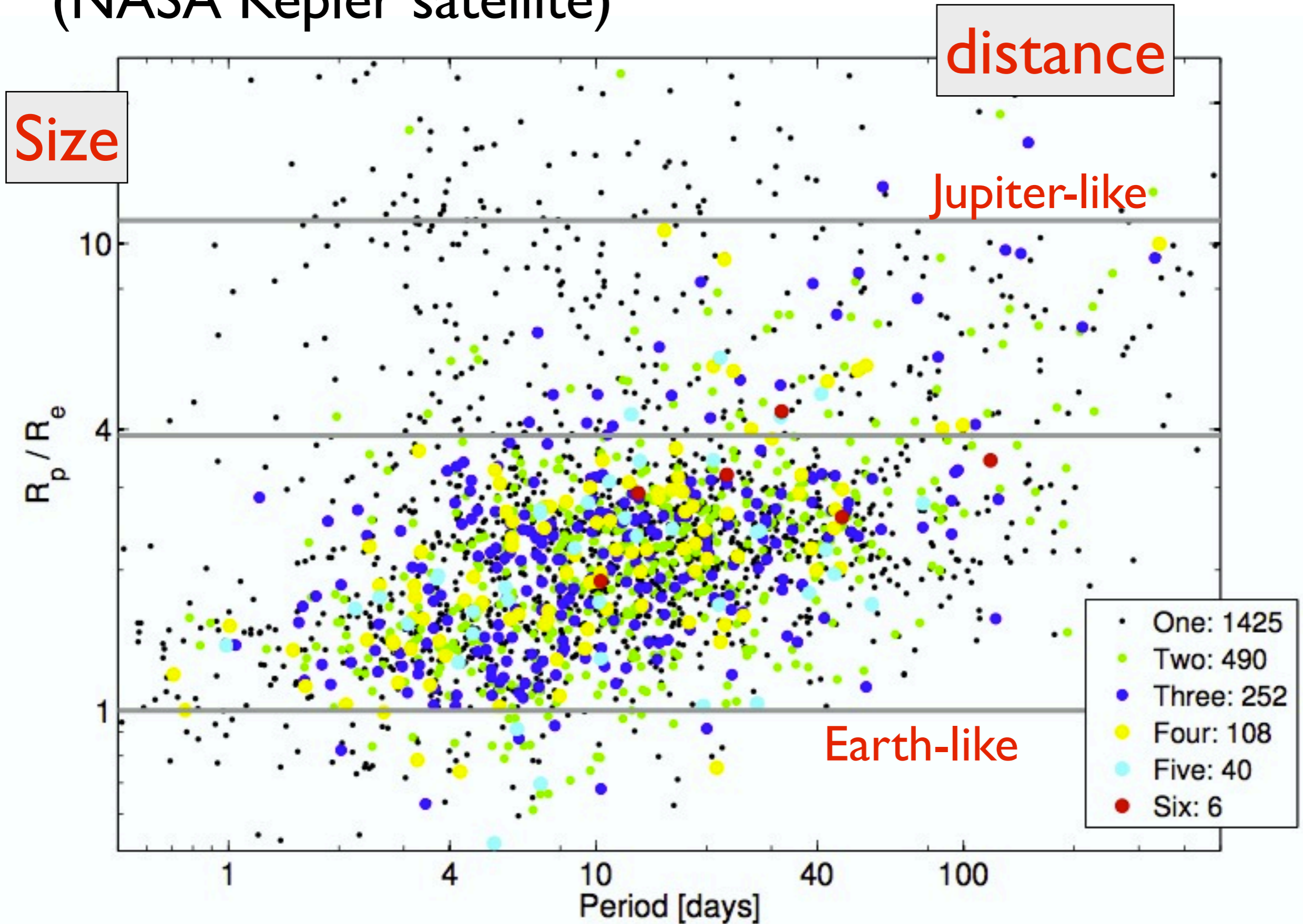




the inner most planet:

- goes around the star every 10 hours (1 “year”)
- ground likely molten
- standing at the gate of ‘hell’

News as of Feb 28th, 2012 (NASA Kepler satellite)



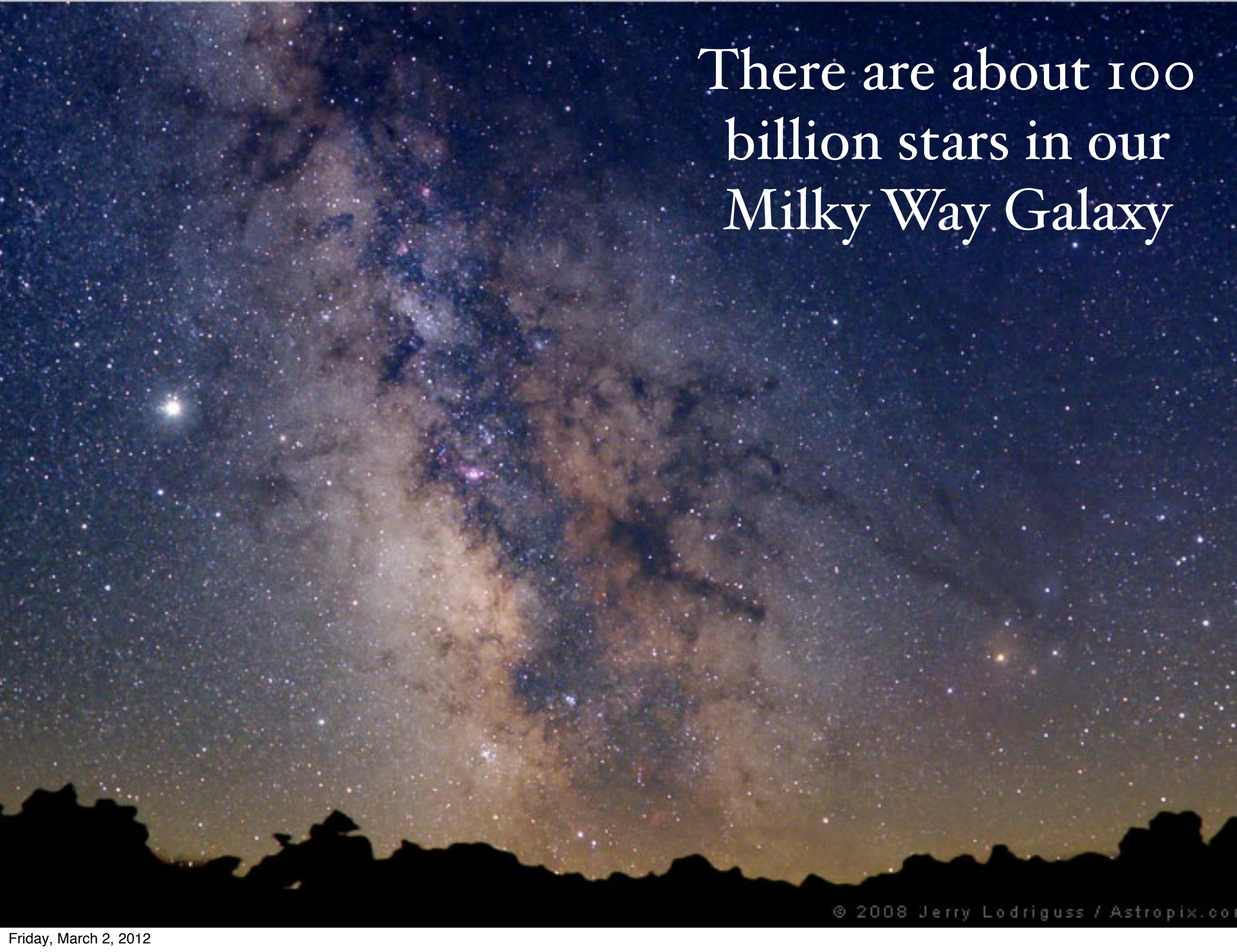
How many planets does a typical star have?

We haven't seen any twin solar system yet. Too hard to find at the moment.

The ones we know today are all packed close to the star.

But even these 'exotic planets' already tell us that each star ought to have at least a few planets!

With time, the number 'a few' may grow to 'dozens'?



There are about 100
billion stars in our
Milky Way Galaxy

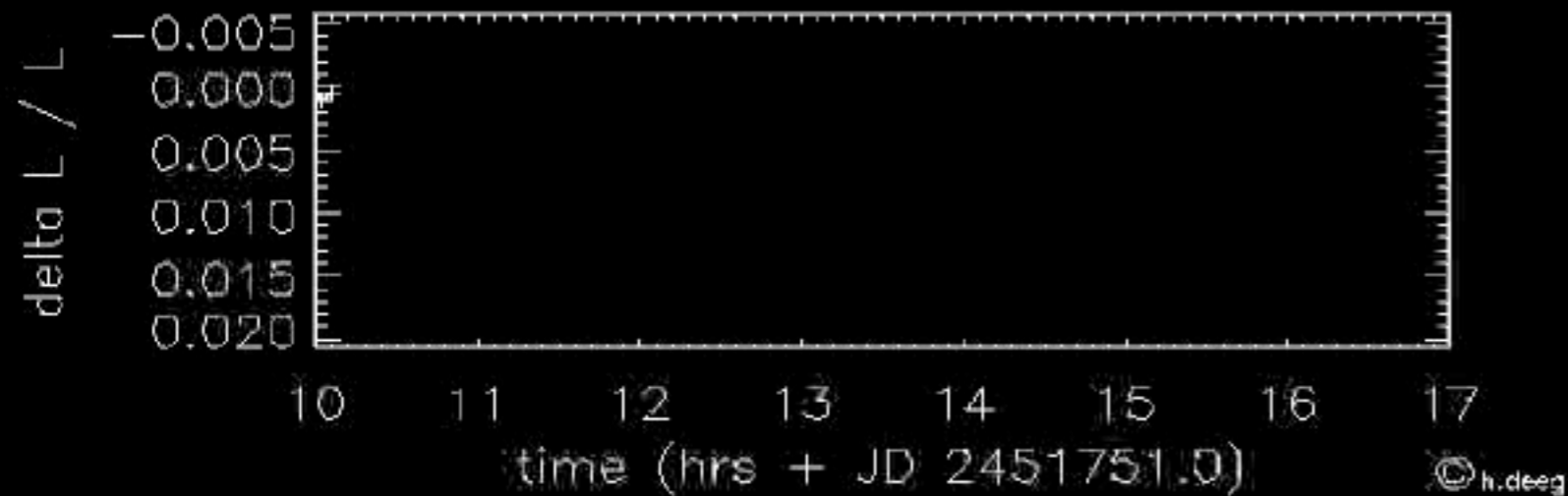
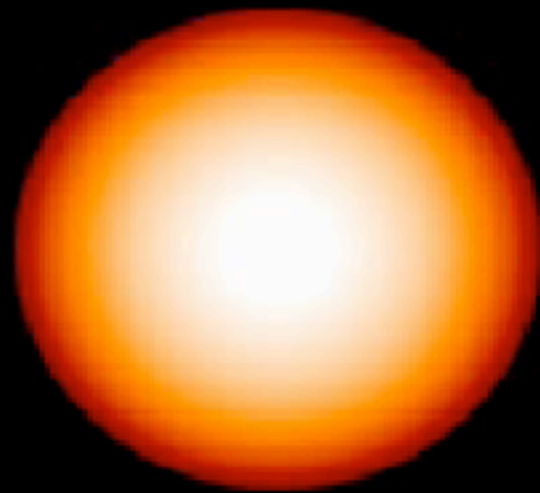
Just announced today



A planet “playing with bath-water” around a young star

transit is a
powerful way to
find planets

Mercury



Dancing of the star can be detected
to infer the presence of the planet.

