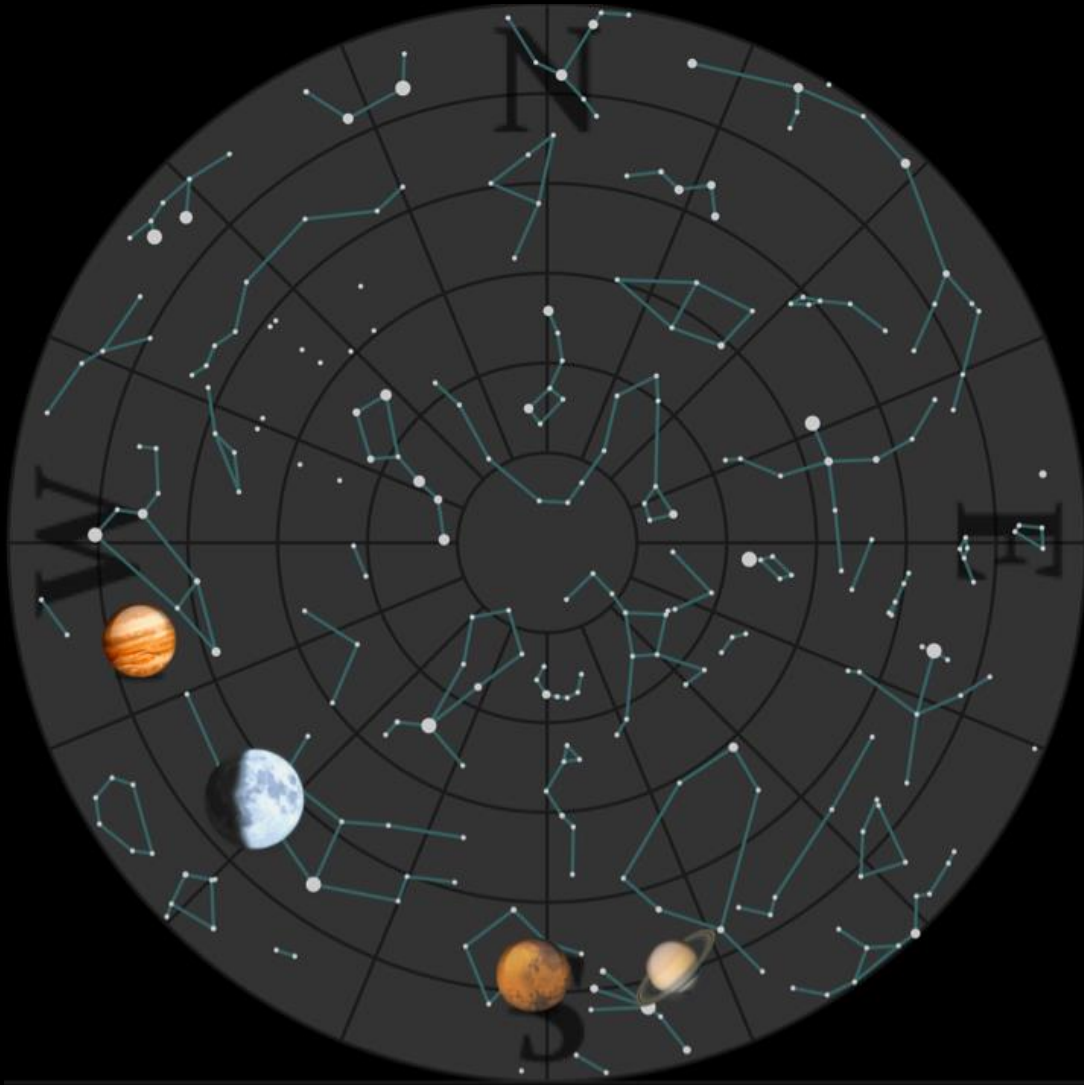


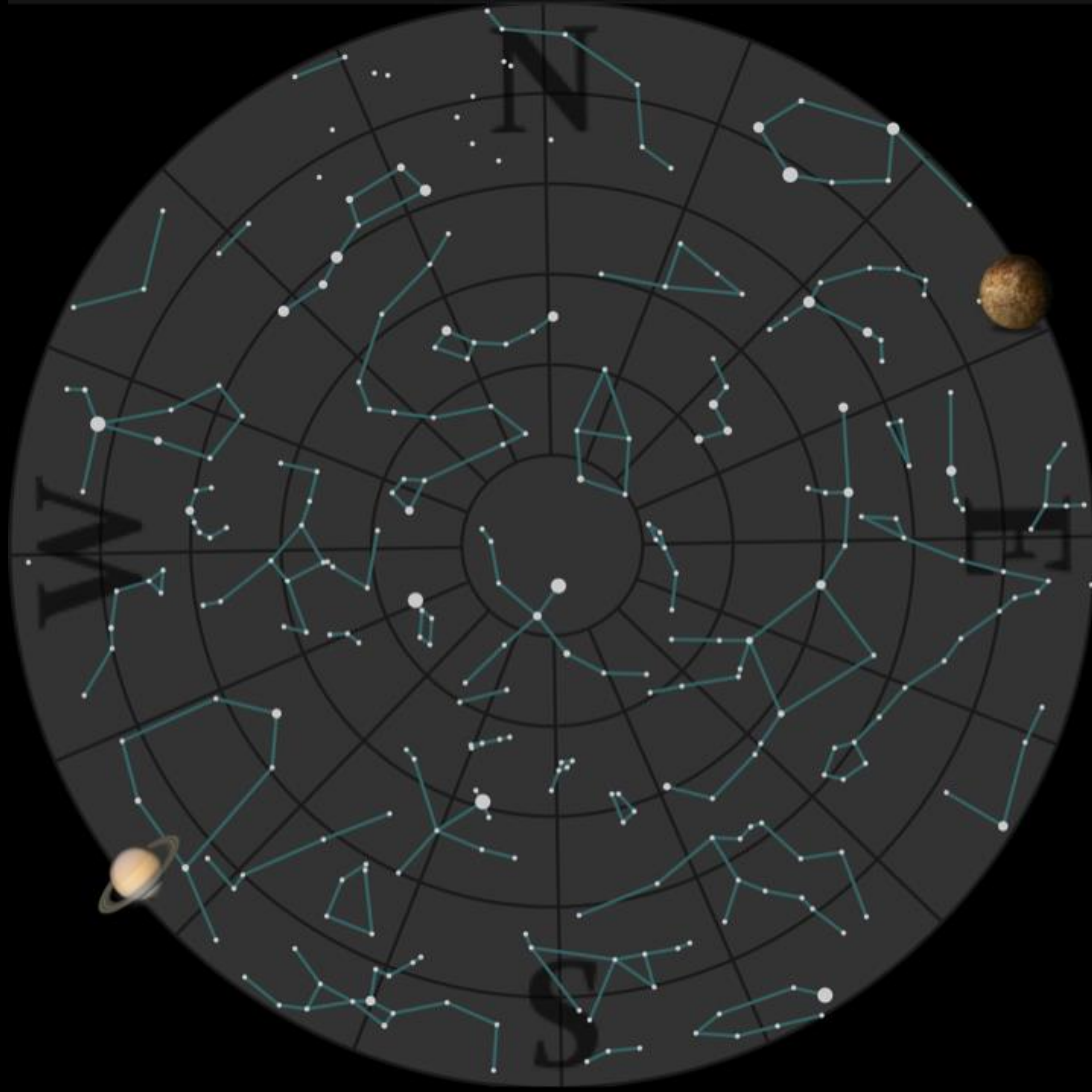
# What's Up?

2016 June 13 to July 11

Bill Barton, FRAS

- The Sky 22:00  
Tonight





- The Sky 03:00  
Tomorrow Morning

# Inner Solar System

- Sun
  - Solstice on 20 June
  - Aphelion on 04 July
- Mercury
  - Superior Conjunction on July 07 (far side of Sun)
  - In the morning sky this period
  - Brightening but elongation decreasing through this period
- Venus
  - Superior Conjunction was on June 06 (far side of Sun)
  - In evening sky moving away from the Sun
  - Getting increasingly easier to see

# Earth

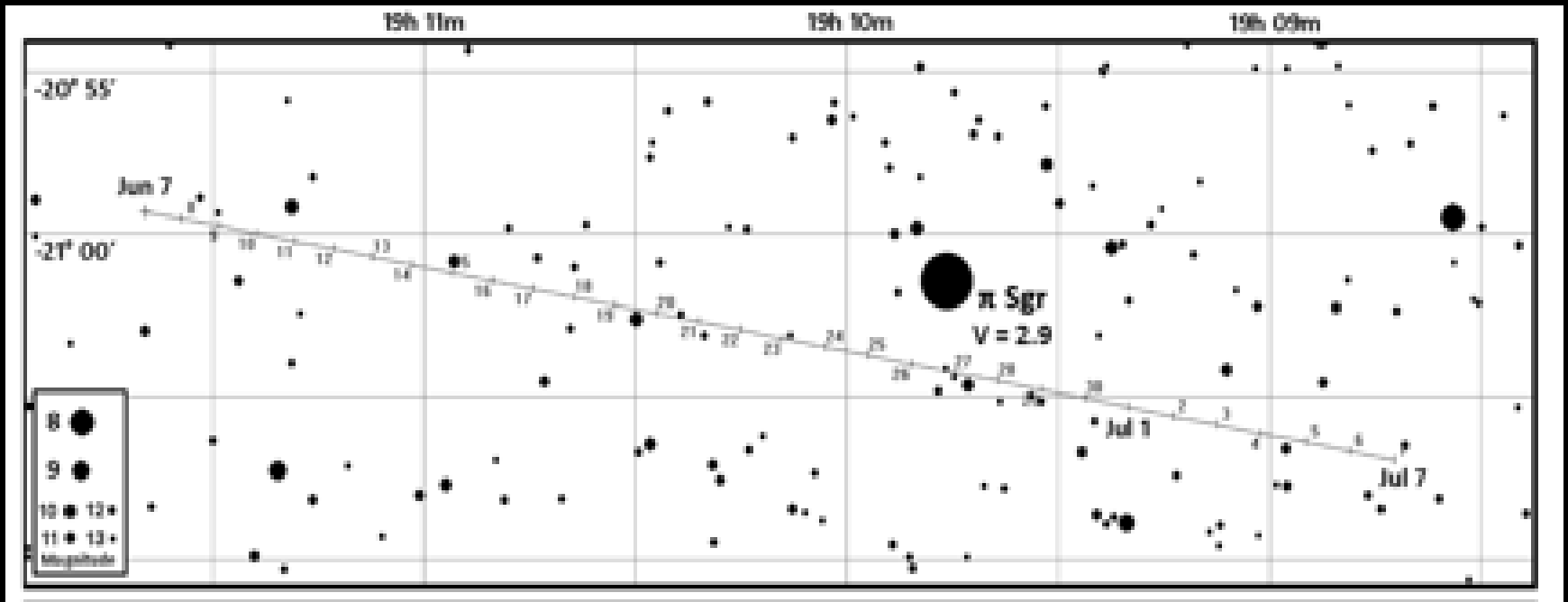
- Moon
  - Full June 20
  - Last Quarter June 27
  - New July 04
  - First Quarter July 12
  - Three Lunar Occultations this period but only 4th and 5th magnitude stars
- Eclipses
  - None this period
- Meteors
  - Only minor activity this period

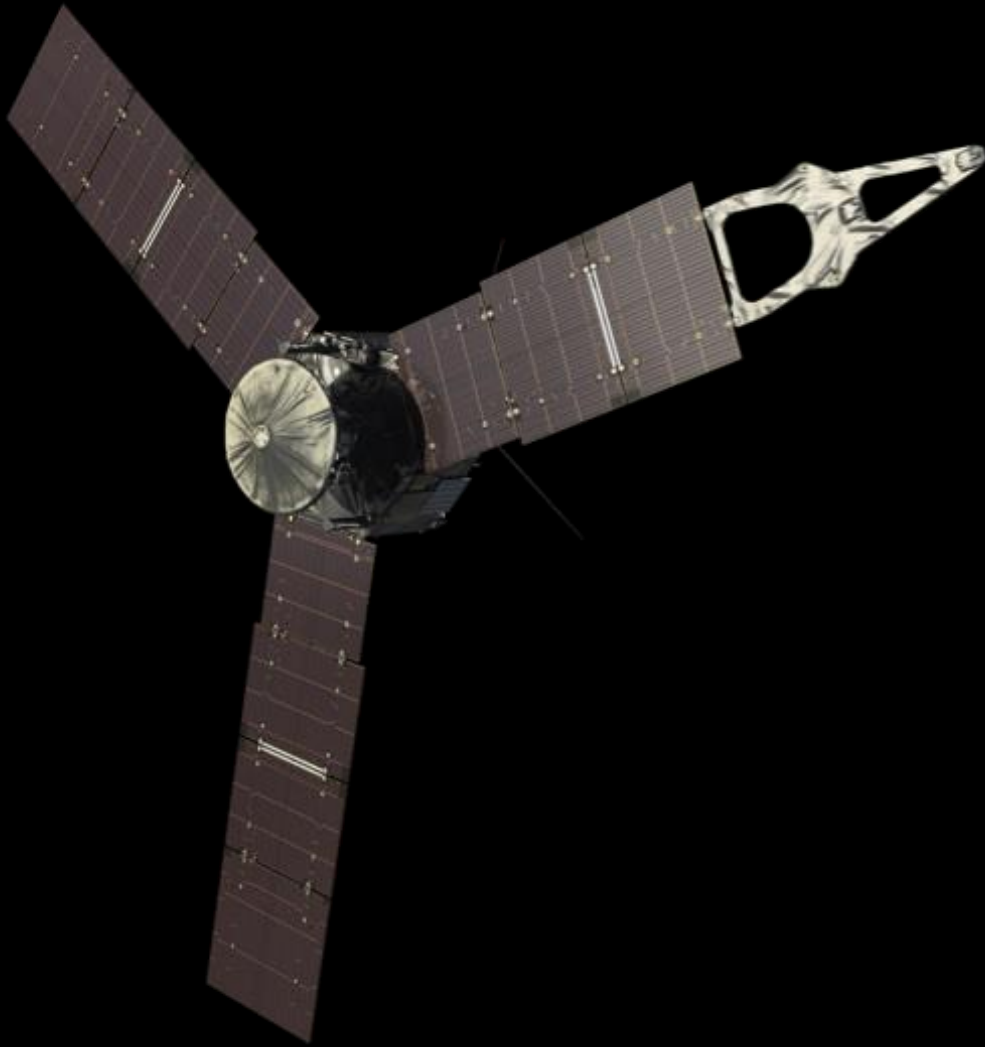
# Outer Solar System

- Mars
  - Rising before midnight UT, in Libra
- Jupiter
  - In the evening sky, in Leo
- Saturn
  - Rising around midnight UT, Opposition was on June 03, in Ophiuchus
- Pluto
  - Opposition on 07 July, in 'teaspoon ' in Sagittarius

# Pluto

- Due East on June 16 and due South on June 27 of mag 2.9  $\pi$  Sagittarii, but will require at least 250mm (10") aperture

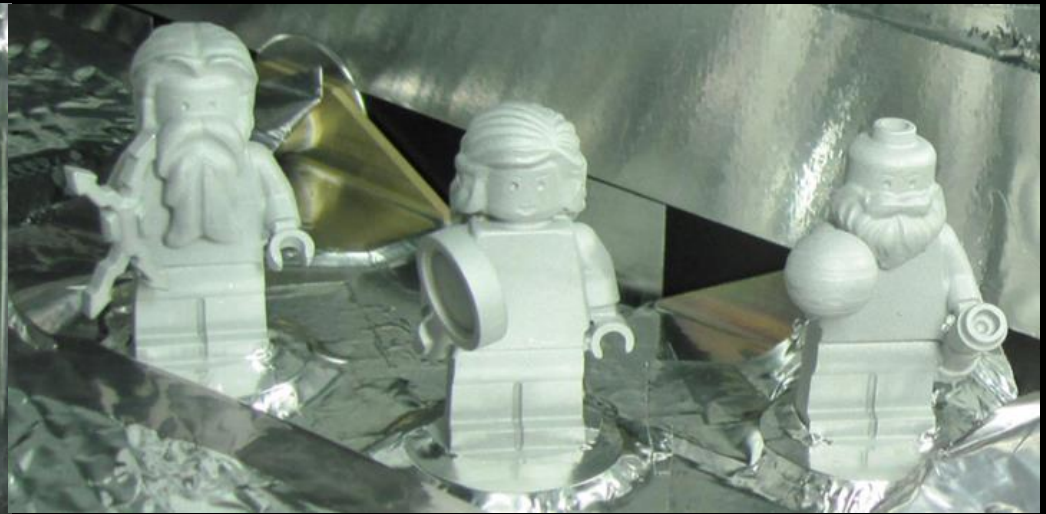
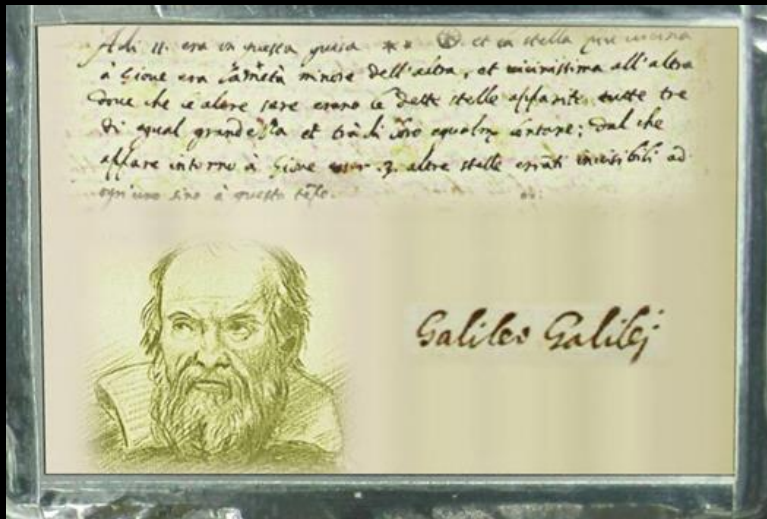




- NASA Juno probe arrives at Jupiter on July 4 and goes into a polar orbit to study the planet for the next year or two.



- Probe carries two 'novelty' items
  - a plaque provided by the Italian Space Agency dedicated to Galileo
  - three lego figures of Jupiter, his wife Juno and Galileo.



Tim Peake

comes home this weekend