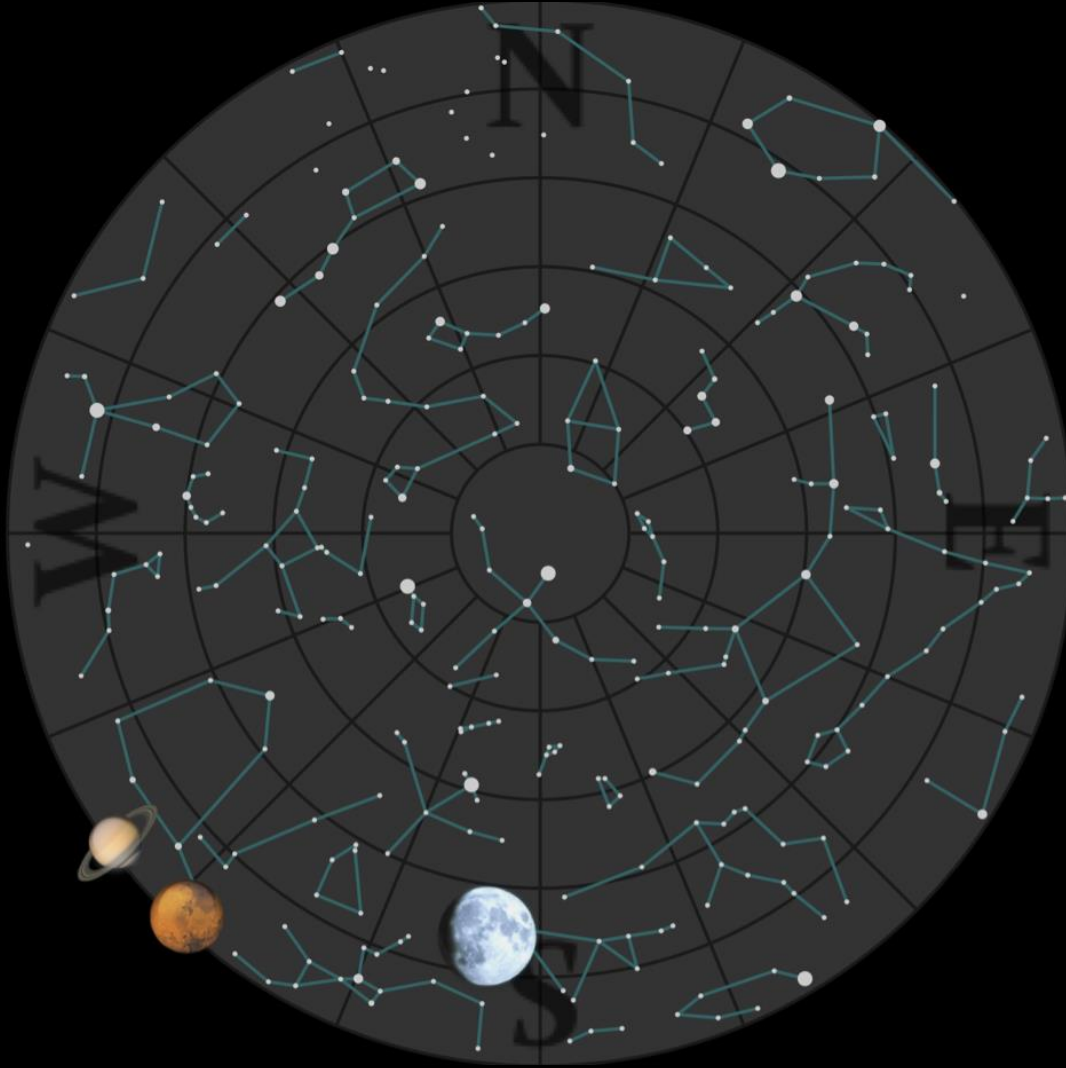


# What's Up?

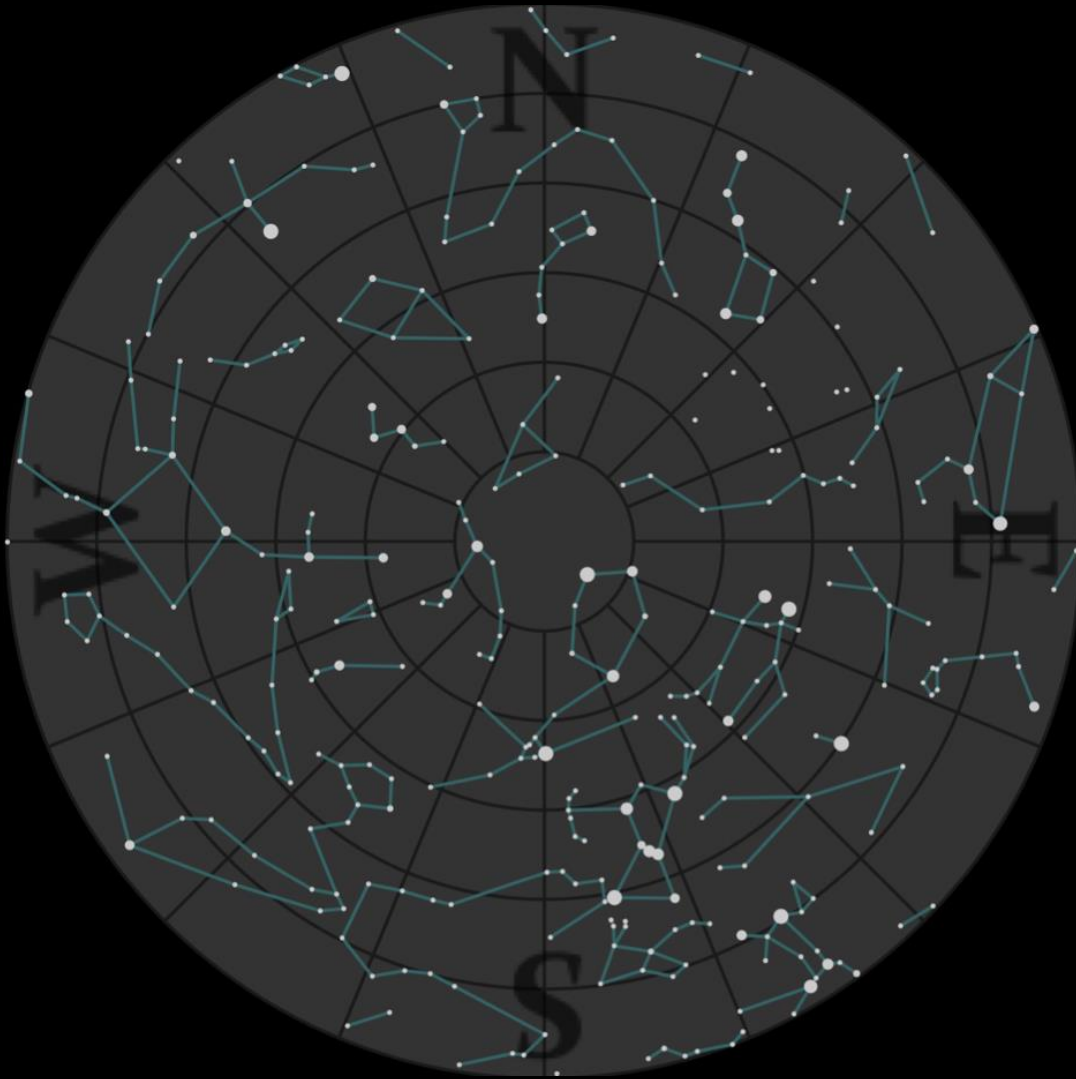
2016 September 12 to October 10

Bill Barton, FRAS

- The Sky 22:00 Tonight



- The Sky 06:00  
Tomorrow Morning



# Inner Solar System

- Sun
  - Heading South
  - Was eclipsed by the Moon on September 01 (only visible from Central Africa)
  - Autumn Equinox at 14:21UT on September 22
- Mercury
  - Inferior Conjunction on September 12 (our side of the Sun)
  - In the morning sky this period
  - Best seen from mid September till mid October
  - Greatest elongation West on September 28 ( $18^{\circ}$ )
- Venus
  - In evening sky moving away from the Sun for the rest of this year
  - Getting increasingly easier to see

# Earth

- Moon
  - Full, September 16 (Harvest Moon)
  - Last Quarter, September 23
  - New, October 01
  - First Quarter, October 09
  - Lunar Occultations, 10 this period, nine of which are dark limb reappearances
- Eclipses
  - Partial penumbral Lunar September 16 (eclipse at moonrise from UK)
- Meteors
  - Only minor activity this period

## Penumbral Lunar Eclipse of 2016 Sep 16

Greatest Eclipse = 18:55:27.3 TD (= 18:54:17.5 UT1)

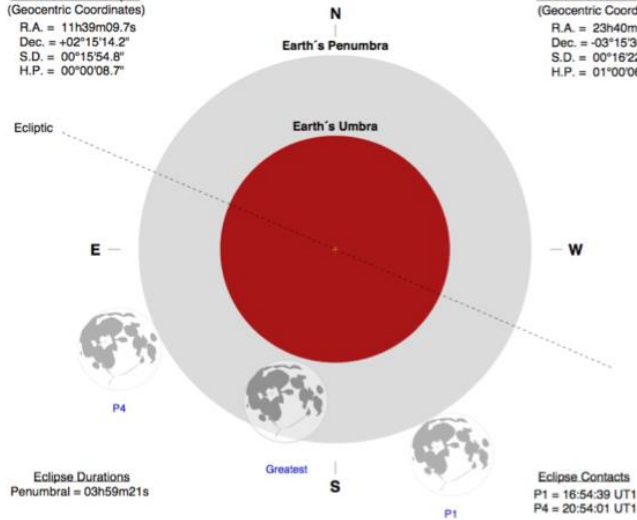
Penumbral Magnitude = 0.9080  
Umbral Magnitude = -0.0635

Gamma = -1.0549  
Axis = 1.0568°

Saros Series = 147  
Saros Member = 9 of 71

Sun at Greatest Eclipse  
(Geocentric Coordinates)  
R.A. = 11h39m09.7s  
Dec. = +02°15'14.2"  
S.D. = 00°15'54.8"  
H.P. = 00°00'08.7"

Moon at Greatest Eclipse  
(Geocentric Coordinates)  
R.A. = 23h40m27.3s  
Dec. = -03°15'36.5"  
S.D. = 00°16'22.8"  
H.P. = 01°00'06.8"

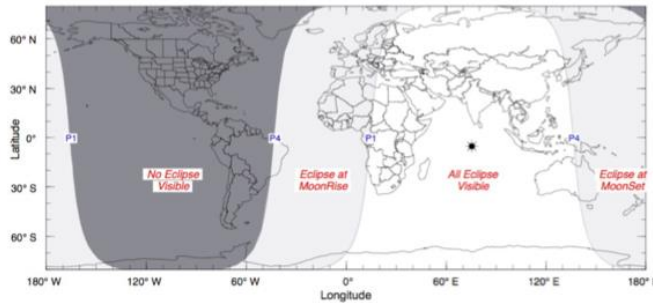


Eclipse Durations  
Penumbral = 03h59m21s

Eclipse Contacts  
P1 = 16:54:39 UT1  
P4 = 20:54:01 UT1

Eph. = JPL DE405  
Rule = Danjon  
 $\Delta T = 70$  s

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- September 16 Eclipse of the Moon

- 1st contact  
16:54UT  
(17:54BST)

- Moonrise 18:13UT  
(19:13BST)

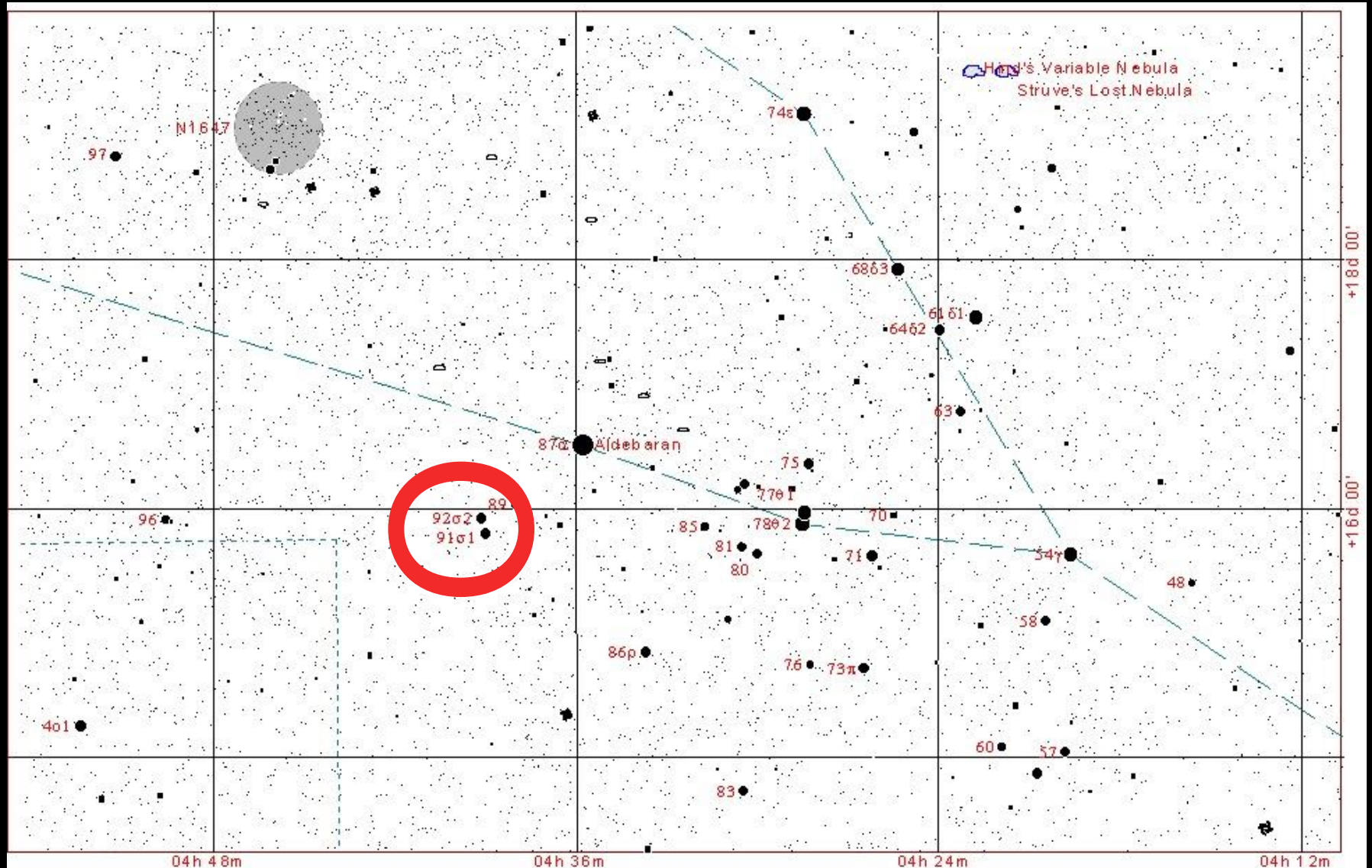
- 4th contact  
20:54UT  
(21:54BST)

# Lunar Occultations

- Wednesday September 21<sup>st</sup>/Thursday 22<sup>nd</sup>
- Moon phase, five days past 'full' rising around 21:00UT (22:00BST)
- 89 Tauri (mag 5.8) dark limb reappearance at 22:56UT (23:56BST)
- $\sigma^1$  Tauri (mag 5.1) dark limb reappearance at 23:06UT (00:06BST)
- $\sigma^2$  Tauri (mag 4.7) dark limb reappearance at 23:19UT (00:19BST)

These stars are in the 'Hyades' cluster near Aldebaran

# The Hyades Star Cluster





# Outer Solar System

- Mars
  - In south-west at sunset, in Ophiuchus moving to Sagittarius
- Jupiter
  - Behind the Sun, conjunction September 26, in Virgo
- Saturn
  - In south-west at sunset, in Ophiuchus

# OASI Events

- Field Trip
  - Monday September 19, 11:30pm, Grazing Lunar Occultation of 87 Ceti
- International Observe the Moon Night
  - Saturday October 08, 7:00pm, Nowton Park, Bury St. Edmunds

# Other Events

- DASH
  - Lecture Meeting, Saturday September 17, 7:30pm, Westleton Village Hall
    - Reg and Oliver Hunt on "Astronomical Numbers"
    - Dr. Leonard Brundle TBA
  - Observing Meeting, Saturday October 01, 7:30pm, Westleton Heath
- Burlington House (home of the RAS)
  - Open as part of Open House London Weekend on September 17 (booking required)
- Kelling Heath
  - September 30 to October 02