

Dec11 Sky notes

View facing North 10:00pm on Dec 1st 2011 (55deg Field of View)

Polaris -434 lt yrs – Cepheid variable – F type star (7.5xMs / 30xRs / 2200xLs / 7500K) magn +1.97

Ms = solar mass / Rs = solar radius / Ls = solar luminosity)



Dubhe(alpha Uma) -124 lt yrs – K type star (4xMs / 30xRs / 300Ls / 4500K) magn +1.78

Merak (beta Uma) -79 lt yrs – type A star (3xMs / 2xRs / 69xLs / 9800K) – dust disk around star (magn +2.34)

View facing East 10:00pm on Dec 1st 2011 (68deg Field of View)x

Capella(alpha Aur) -42 lt yrs – close binary star – moving in same direction as Hyades cluster **magn +0.76**

Alpha 1-G type star (2.7xMs / 12xRs / 79xLs / 4900K) Alpha 2-G type star (2.6xMs / 9xRs / 78xLs / 5700K)



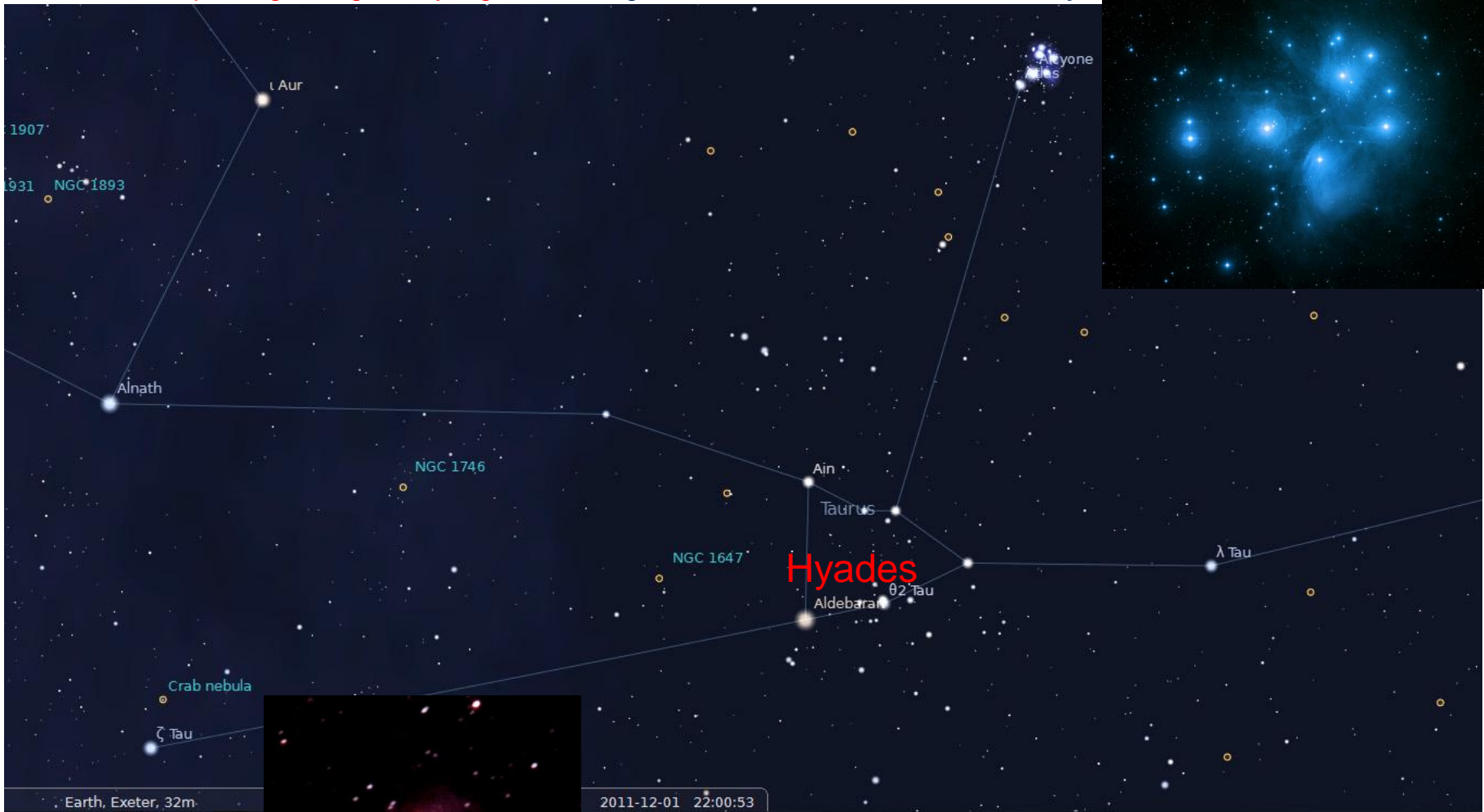
Betelgeuse (alpha Ori) – 640 lt yrs – red supergiant -M type star (19xMs / 1200xRs / 140,000xLs / 3500K) **magn +0.2 to +1.2**

Rigel (beta Ori) - 773 lt yrs – blue supergiant - B type star (17xMs / 78xRs / 66,000xLs / 11,000K) **magn +0.18**

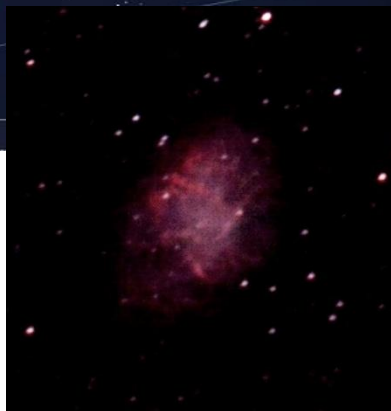
Constellation of the Month (Dec 11) : Taurus

Pleiades open star cluster(M45) – 456 lt yrs – hot / luminous B type stars- 100 million yrs old

Stars passing through dusty region – blue light scattered--- **Reflection nebosity**



M1
Supernova
remnant



One of the brightest supernova remnants(1054AD) -6500 lt yrs
Filaments from expansion of supernova remnant seen in optical image
Size (6' x 4') Magn +8.4 (pulsar at centre of nebula) 13 lt yrs in size
Expansion of remnant can be measured from historical images

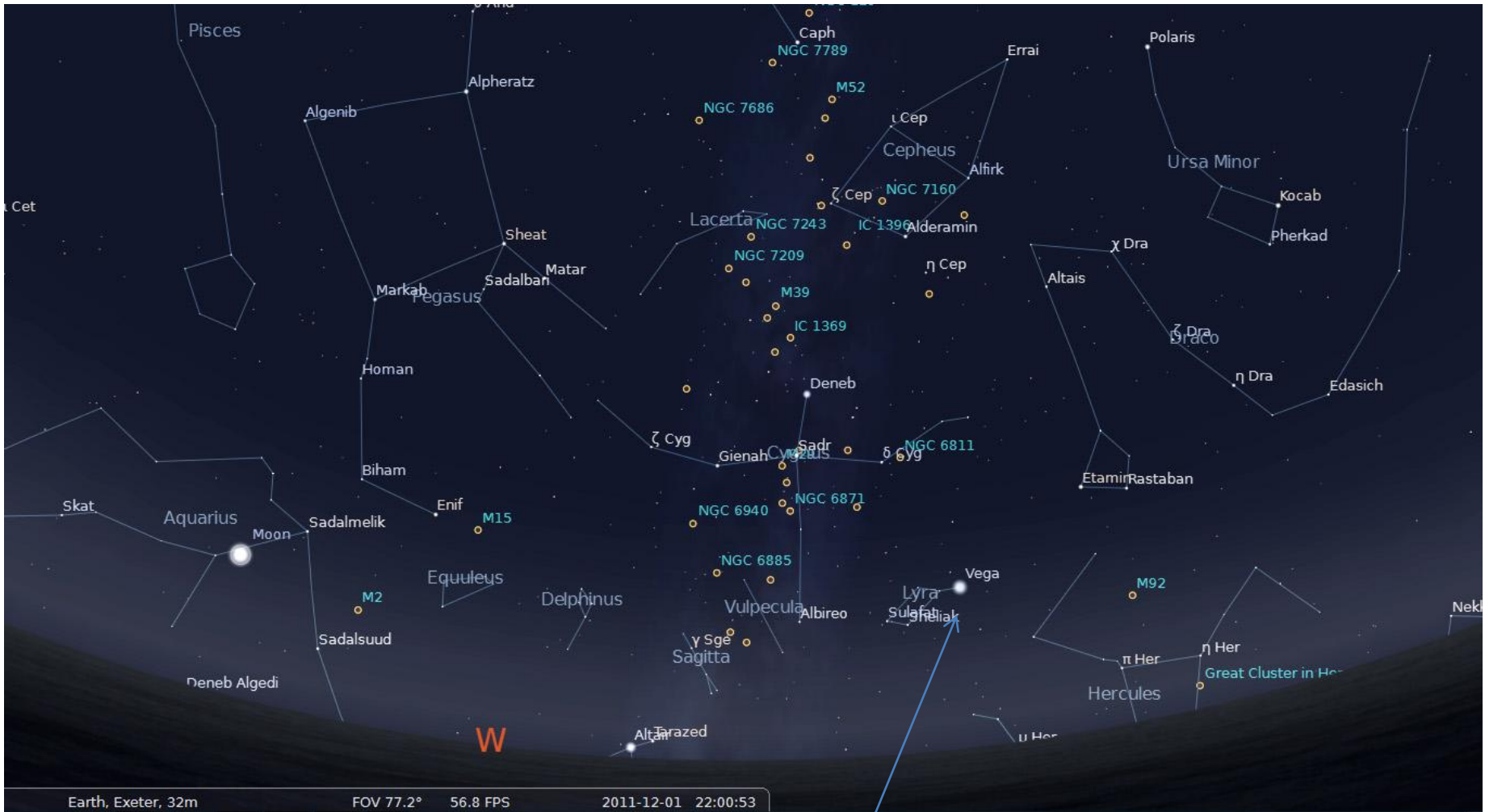
View facing South 9:00pm on Dec 1st 2011 (86deg Field of View)

Aldebaran (alpha Tau)- 65 lt yrs – orange K type giant star - (1.7xMs / 44xRs / 425xLs / 4010K)
slightly variable – star has moved off main sequence (magn +0.87)



Deneb(alpha Cyg) – 1400lt yrs – A type blue/white supergiant star- (20.0xMs / 100xRs / 54,000xLs / 8525K)
- Possible supernova in a few million years (magn +1.25)

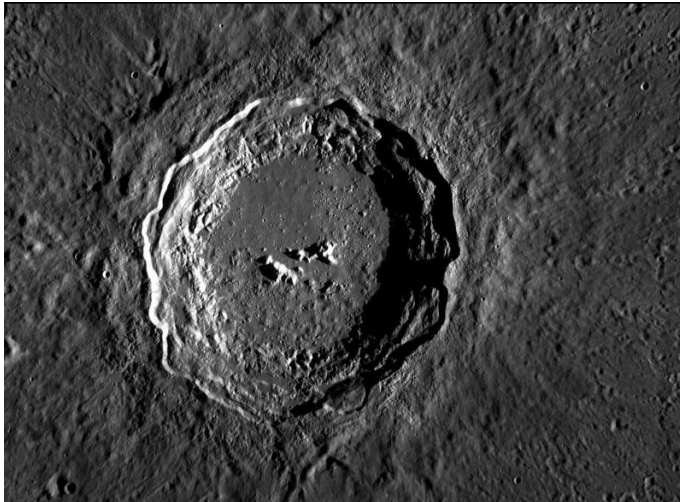
View facing West 10:00pm on Dec 1st 2011 (64deg Field of View)



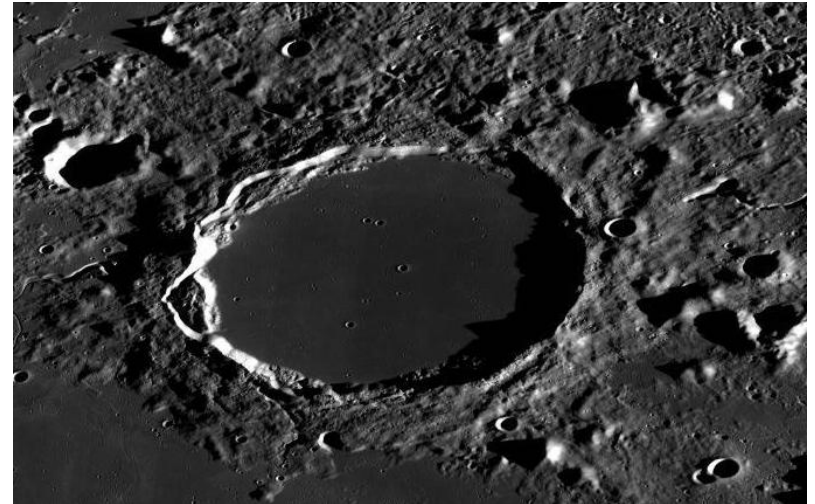
Vega (alpha Lyr) – 25 lt yrs – A type star - (2.1xMs / 2.3xRs / 37xLs / 9602K) magn +0.03
Circumstellar disk of dust around star

Lunar Crater Comparison (Dec 2011)

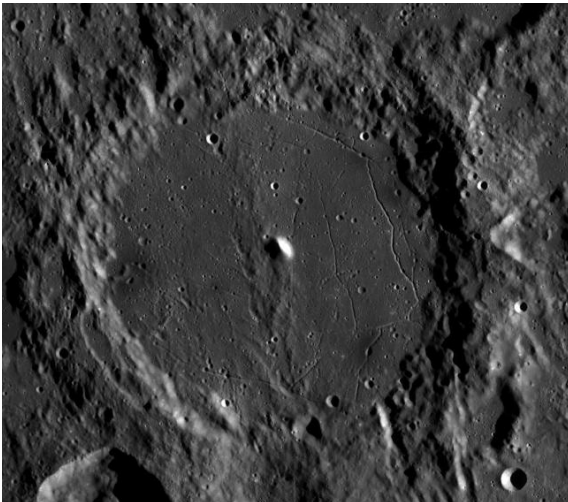
Lunar phases(Dec 2011) : 1st quarter (2nd Dec) , full(Dec 10th) , last quarter(Dec 17th),new (dec 24th)



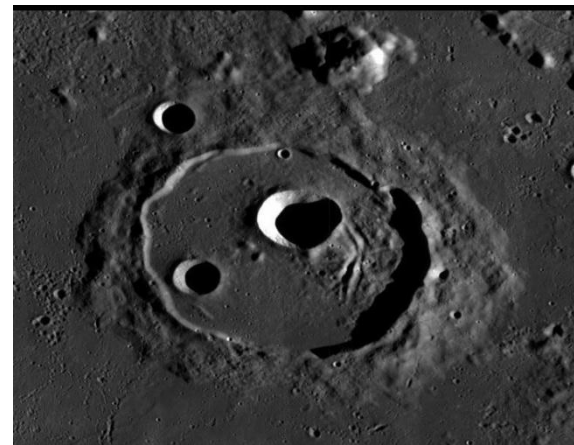
Copernicus (93 km diameter / 3.7 km deep) :
Terraced walls / central peak / ejecta



Plato(101km diameter / 2.4 km deep)
no central peak - Flooded with Mare Imbrium lava



Alphonsus(118km diameter)
Volcanic deposits on crater floor



Cassini (57 km wide)
Almost flooded with Mare Imbrium lava

Solar System Sky notes (Dec 2011)

Mercury: Optimum visibility – Dec 22nd – low in south-east before sunrise – altitude 6 deg

Venus : Optimum visibility – Dec 31st – altitude 10deg– 3 hr after sunset (magn -3.9)

Mars Optimum visibility – Dec 31st - Rises before midnight (early Dec) – 7-9" size(mag +0.7)

Jupiter: Optimum visibility – Dec 1st– magn -2,6 , 43" size – max altitude at 9:30pm (47deg)



**Dec 2nd – Ganymede occultation
(8pm)**



**Dec 7th – Io transit
(18:46pm)**



Dec 20th – Ganymede transit (17:15pm)



Dec 30th : Io transit (18:30pm)

Saturn : Optimum visibility – dec 31st – 06:00am (magn +0.8)

Geminid Meteors (Dec 2011)

Shower peaks rate on Dec13th - 14th

Moon affects visibility - Meteors have slow-medium speeds and often bright trails

