

M74, Spiral Galaxy, Pisces

Continuing a series of photograph's of the Messier Objects



<http://www.eso.org/public/images/potw1335a/>

Rugby & District Astronomical Society

www.rugbyastro.org.uk

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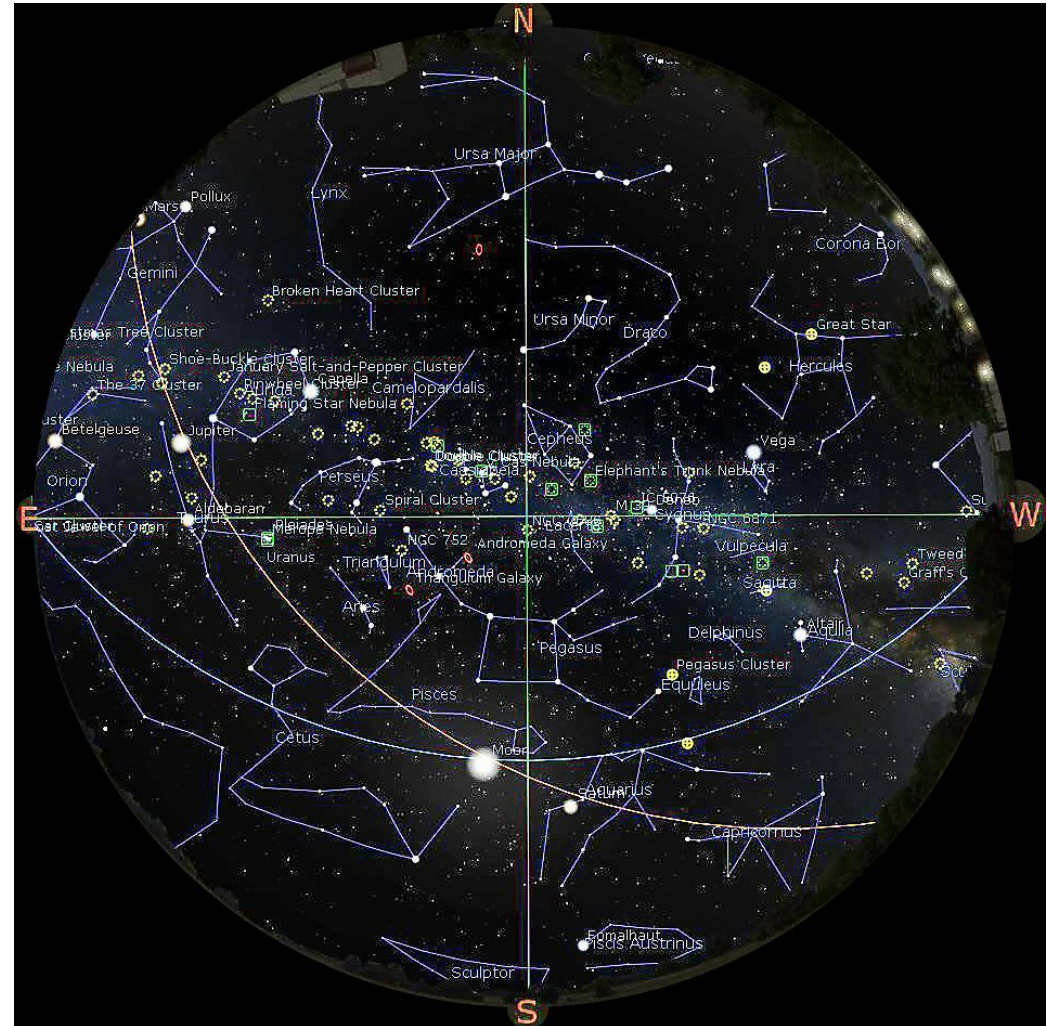
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Rugby & District Astronomical Society

Monthly Sky Notes

No. 178, October 2024, by Chris Longthorn

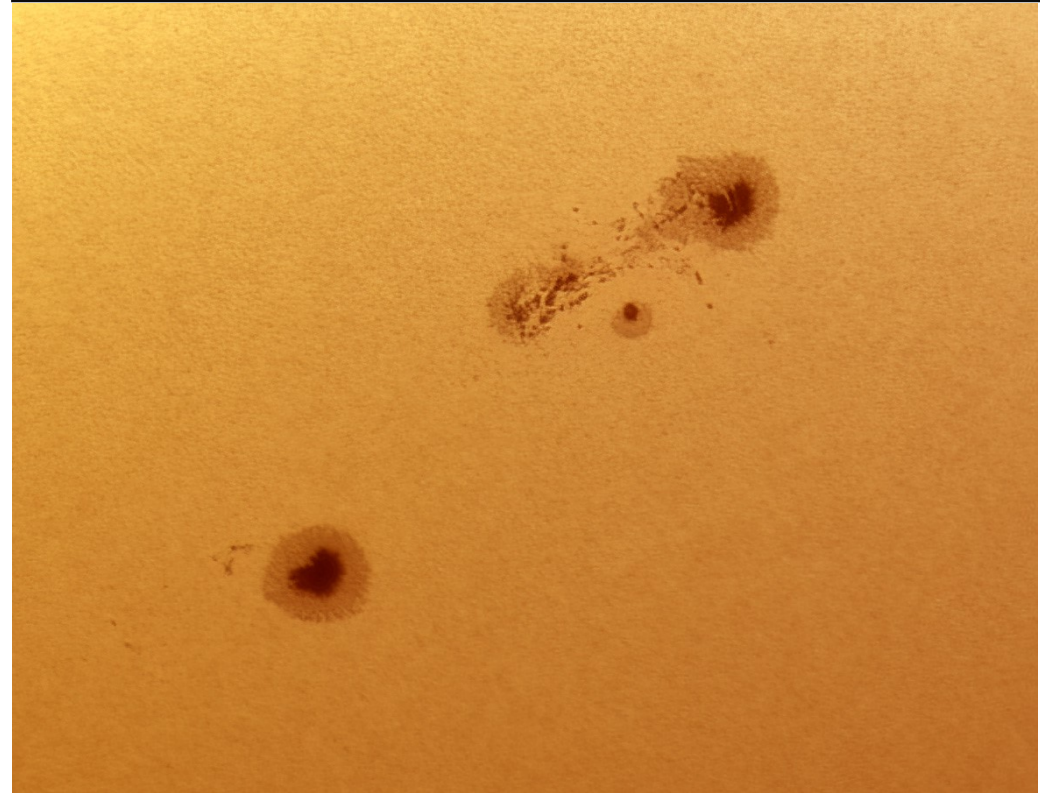


The night sky at 23:00 U.T.C., Oct 15th, 2024

Sky Events for Oct 2024

- 02 18:45 Annular Solar Eclipse; mag=0.933
- 02 18:49 NEW MOON
- 05 20:27 Venus 3.0°N of Moon
- 06 19:14 ISS, -3.6, 68°, SW
- 07 18:26 ISS, -3.5, 46°, NE
- 10 18:55 FIRST QUARTER MOON
- 14 18:05 Saturn 0.1°S of Moon: Occn?
- 17 11:26 FULL MOON
- 19 19:59 Pleiades 0.1°S of Moon
- 20 19:30 R&DAS Monthly Meeting
- 21 06:00 Orionid Meteor Shower
- 23 19:55 Mars 3.9°S of Moon
- 24 08:03 LAST QUARTER MOON

October Image of the Month



I would normally use this section of the Skynotes for a picture from a member, but as I haven't had any this month I've put up one of my recent solar images.

Taken on 21st August, at 09:28:49 UTC using SharpCap to take a video of 1000 frames. Stacked and pre-processed in AstroSurface, 206 frames in the stack. Sharpened, de-noised and colourised in Photoshop CS3.

AR3790 is the large spot at bottom left, classified as Hhx (Large with symmetric penumbra and open spot distribution).

AR3792 is the large spot at upper right, classified as Ekc (Large group extending more than 10 degrees with asymmetric penumbra greater than 2.5 degrees and compact spot distribution, the area between the main spots is populated with many strong spots with at least one possessing a penumbra. AR3792 is about the diameter of Jupiter, with Earth being about the size of the spot at bottom centre of the group).

I will check on my classifications when I get the BAA Solar Section's August Newsletter.

Object of the Month for October



<https://www.facebook.com/lukasz.sujka.astronomy/>

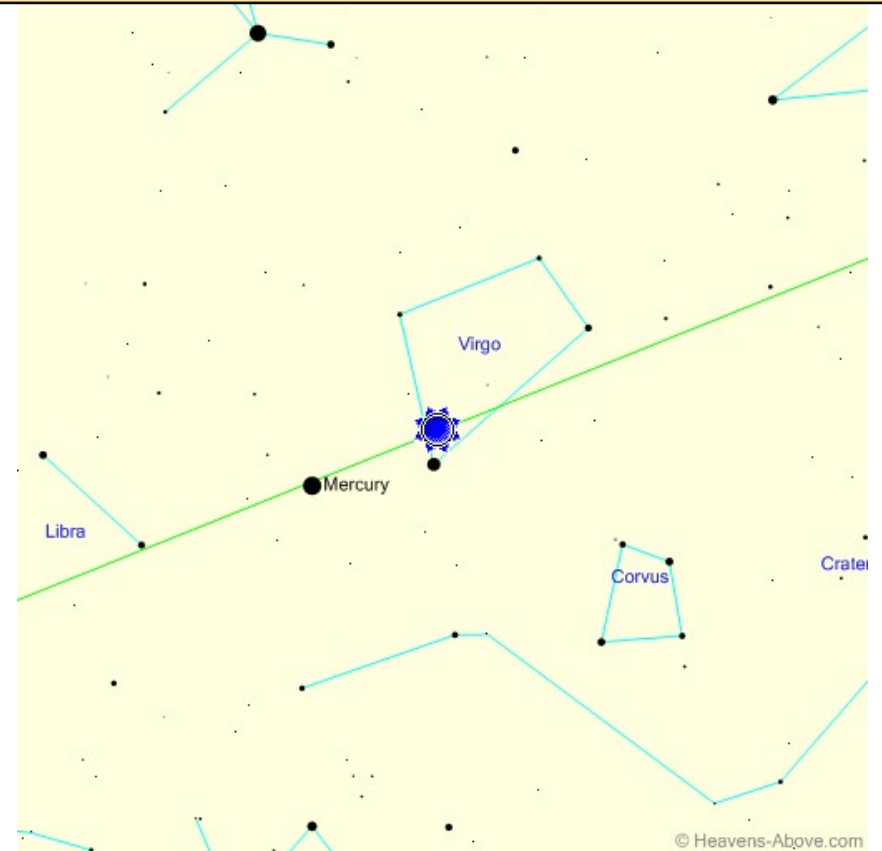
NGC 7662 is a planetary nebula located in the northern constellation Andromeda. It is known as the Blue Snowball Nebula, Snowball Nebula, and Caldwell 22. This nebula was discovered October 6, 1784 by the German-born English astronomer William Herschel. In the New General Catalogue it is described as a "magnificent planetary or annular nebula, very bright, pretty small in angular size, round, blue, variable nucleus". The object has an apparent visual magnitude of 8.3 and spans an angular size of $32'' \times 28''$. Parallax measurements give a distance estimate of $5,730 \pm 340$ ly ($1,757 \pm 103$ pc).

NGC 7662 is a popular planetary nebula for casual observers. A small telescope will reveal a star-like object with slight nebulosity. A 6" telescope with a magnification around 100x will reveal a slightly bluish disk, while telescopes with a primary mirror at least 16" in diameter may reveal slight colour and brightness variations in the interior.

This nebula has an elliptical shape with a triple-shell structure. The brightest is the main shell, which spans $12'' \times 18''$. This is surrounded by a fainter outer shell, which has an elliptical form. Both shells are enclosed by a faint, circular halo, some $134''$ in diameter. Several knots and a jet-like structure are visible, which display emission lines and low ionization. Based on the expansion rate, the estimated age of the nebula is 3,080 years.

The Blue Snowball Nebula, NGC 7662

The Sun, mid-October



Event	Time	Altitude	Azimuth
Astronomical twilight begins:	04:33	-18.0°	99°
Nautical twilight begins:	04:57	-12.0°	99°
Civil twilight begins:	05:21	-6.0°	99°
Sunrise:	05:42	-0.8°	99°
Maximum altitude:	11:46	81.2°	181°
Sunset:	17:49	-0.8°	261°
Civil twilight ends:	18:10	-6.0°	261°
Nautical twilight ends:	18:34	-12.0°	261°
Astronomical twilight ends:	18:59	-18.0°	261°
Minimum altitude:	23:46	-81.0°	179°

All data courtesy of Heavens-Above (www.heavens-above.com)

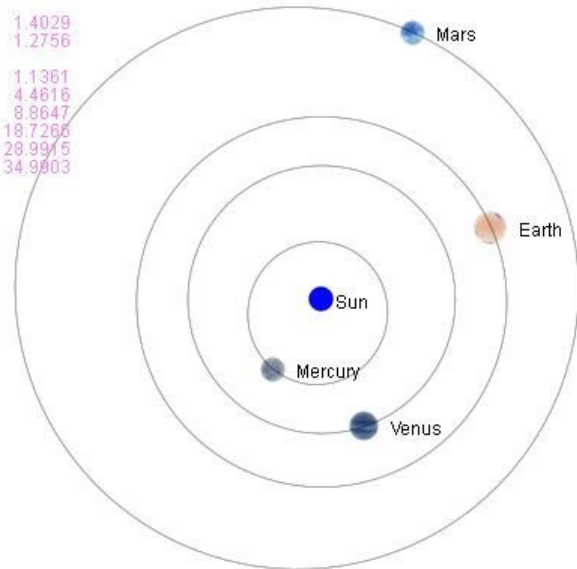
The Planets, mid October, 2024

Inner Solar System

2024-10-15 (BST)

23h00m

	Sun	Earth
Mercury	0.4585	1.4029
Venus	0.7278	1.2756
Earth	0.9969	
Mars	1.5223	1.1361
Jupiter	5.0581	4.4616
Saturn	9.6536	8.8647
Uranus	19.5662	18.7266
Neptune	29.8963	28.9915
Pluto	35.1187	34.9803

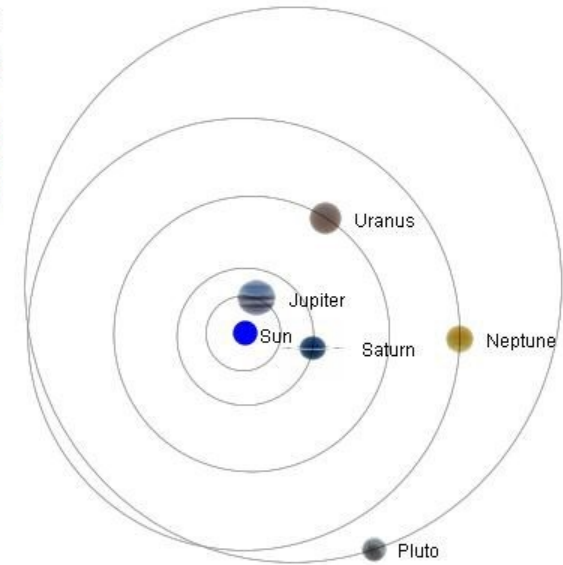


Outer Solar System

2024-10-15 (BST)

23h00m

	Sun	Earth
Mercury	0.4585	1.4029
Venus	0.7278	1.2756
Earth	0.9969	
Mars	1.5223	1.1361
Jupiter	5.0581	4.4616
Saturn	9.6536	8.8647
Uranus	19.5662	18.7266
Neptune	29.8963	28.9915
Pluto	35.1187	34.9803



	Venus	Mars	Jupiter	Saturn	Uranus	Neptune	Pluto
Right ascension	14h 3m 2.6s	15h 39m 33.8s	7h 35m 11.4s	5h 20m 39.9s	23h 1m 11.4s	3h 35m 31.5s	23h 52m 56.2s
Declination	-12° 49' 57"	-20° 35' 0"	22° 33' 31"	22° 24' 28"	-8° 37' 58"	19° 1' 28"	-2° 12' 34"
Range (AU)	1.403	1.275	1.136	4.461	8.865	18.726	28.992
Elongation from Sun	10.4°	34.7°	90.9°	121.8°	140.3°	146.6°	154.7°
Brightness	-0.6	-3.9	0.3	-2.4	0.7	5.6	7.8
Equatorial Diameter	4.80"	13.09"	8.25"	44.19"	18.75"	3.76"	2.36"
Phase Angle	23.0°	51.2°	40.9°	9.6°	3.8°	1.6°	0.8°
Constellation	Virgo	Libra	Gemini	Taurus	Aquarius	Taurus	Pisces
Meridian transit	12:22	13:59	05:57	03:44	21:22	01:59	22:13
Rises	06:22	07:59	23:55	21:41	15:23	19:56	16:14
Sets	18:23	20:00	11:56	09:43	03:25	07:58	04:16
Altitude	-65.7°	-41.5°	-12.8°	18.2°	64.0°	42.9°	78.1°
Azimuth	237.3°	242.0°	66.8°	66.3°	250.0°	63.6°	259.3°