

FEBRUARY 2025

# NEWSLETTER

## WILTSHIRE ASTRONOMICAL SOCIETY

### WILTSHIRE AS CONTACT INFO:

**Chairperson:** Simon Barnes

**Newsletter:** Simon Barnes

**Treasurer and Membership:** Sam Franklin

**Speaker secretary:** Position Vacant

**Observing Sessions coordinators:** Chris Brooks, Jon Gale,

**Web coordinator:** Sam Franklin

**Committee Member:** Tracey Kelly

Contact the Society here:

Email: [contact@wasnet.org.uk](mailto:contact@wasnet.org.uk)

Website url: <https://wasnet.org.uk/>

Follow our Public Facebook Page <https://www.facebook.com/Wiltshire-Astronomical-Society-154077261327030/>

Join the members only Facebook Group: <https://www.facebook.com/groups/wiltshire.astro.society/>

Committee Page:

<https://wasnet.org.uk/committee/>



### UPCOMING OBSERVING SESSION

**Prime Session** Friday 21st February  
**Back Up** Friday 28th February

Start time 19:30 Hrs.

Please look out for a confirmation email from Chris that the session is either ON or OFF (Also shown on the Members Facebook page)

**Location:**

Red Lion Pub carpark SN15 2LQ  
W3W - airbag.shudders.losing

Sign up to Observing Mailing List: <https://wasnet.org.uk/observing/>

### Report from the Chair

Calling all artist-oriented or graphic design members! We want to update our society logo to give it a more vibrant feel yet still retain within it Wiltshire symbolism as well as an astronomy element. Even if you do have not an artistic leaning some 'rough' sketches would also be welcome, maybe we can combine different elements to form a final logo. Please send any sketches or ideas to [contact@wasnet.org.uk](mailto:contact@wasnet.org.uk) We look forward to seeing them. The committee will chose one of the submitted logos and the chosen designer will be recognised with an annotation near the logo

This month I am very pleased to welcome local amateur astronomer and astrophotographer Matthew Terrell as our Zoom speaker, based in Calne he organizes the Facebook group Calne Amateur Astronomy Group. If you are starting out in astrophotography, this is the talk for you.

I delighted to welcome Tracey Kelly onto the committee. She has already made some really helpful input including PR flyers and society profile documents at our recent committee meeting.

At our recent committee meeting we had some useful exchange of ideas. In the coming months we will be exploring these ideas and will report to the membership in due course. I will mention one topic, that is the meeting venue. We would like to find a more accessible and Wi-Fi enabled location than the existing Seend Hall. If there any locations that you know within Chippenham, Corsham, Calne, Melksham please let us know. We want to cater for in-person meetings with the option to Zoom meetings. We have a mix of members wanting to have in person meetings and those more remote that are preferring zoom meetings.

For our 3rd June 2025 meeting I am now making a call for speakers from the membership. We are looking for approx. 10 min presentations from 6 members to fill our typical 1 hour meeting. I have already had slot taken by Jon Gale (thank you), so if 5 others could step forward that would be fantastic. The theme for your talk can be anything you like, maybe your particular specialisation, your journey into astronomy, we could also have a Q & A for one of the slots. Over to you!

In the meantime, our committee will be working to endeavour to keep our society thriving and bring some ideas to fruition.

### 2025 UPCOMING SPEAKERS:

4th February	<b>Astrophotography.</b>	Matthew Terrell. (Z)
4th March	<b>Was Einstein 100% Right?</b>	Professor Malcom MacCallum (Z)
1st April	<b>TBA</b>	
6th May	<b>Lunar Geology</b>	Barry Fitzgerald (Z)
3rd June	<b>6 various topics</b>	Society Members (Z)

Z = (Zoom Meeting) IP = (In person at meeting hall)

\*\*\*\*Interested in Joining the Society? See <https://membermojo.co.uk/was/>

## The Go/No-Go decision

*[Thanks to Chris for this explanation of 'behind the scenes' of his GO/No Go for observing sessions]*

Quite frankly we haven't had a lot of luck with our observing sessions over the last couple of years. The weather over the winter (and arguably, the best) months have been quite discouraging to be honest.

When we have to send the No-Go email out I always feel quite disappointed for our members, as if I personally are letting you down. I know I can't do anything about the weather, and if you are a committed astronomer in the UK, then you really do have to take the good with a large dose of the bad, which makes those very nights extra special.

So, do I just flip a coin at 4pm on the observing day and call it or just look out of the window? Of course the answer is No, I do my best to make the right decision on the day.

How do I do that you may ask? Well I do have a bit of a method going on.

First I will say not all weather apps are equal but they are all fallible. So I do not rely on any single one.

On my iPad I have all the following set for local forecasts:

The Met Office App - mostly good as an overview.

Clear Outside - very good with lots of additional information to help make the decision

iPad Weather App - not great but a good third or fourth opinion

BBC Weather App/TV - certainly not 100% but fairly close to it, especially close to the time.

Weather Radar App - my favourite for making final decisions and to determine the accuracy of the other Apps

Combine with these I also take a look outside, not only up, but also to the horizon. I often check which way the various cloud layers are moving and will often compare what I see outside with what the apps are telling me is happening. If they are a close match I generally have a lot more confidence in what they are telling me is going to happen over the next few hours.

Sometimes I go just on what the apps say, especially if they agree in general. This is the ideal situation to enable me to call it, one way or the other. Unfortunately that is very rarely the case and the worst one is the 'Partially Cloudy' or clear intervals forecast.

What does that mean anyway? You could have a clear night but have a cloud bank come over for 20 or 30 minutes.

On the other hand you could have almost solid cloud for the majority of the night except for a fleeting 20-30 minute break where a thing or two of crystal clear skies is due to appear at 8pm.

Both of these are often classed as 'Partially Cloudy' or clear intervals.

This is where apps such as Clear Outside and Weather Radar help make the right decision and where more general apps fail. With these apps you can see more accurately what the weather is doing, and whether it is likely to affect us looking out from Lacock in a few hours.

Sometimes adverse weather conditions can be a bonus. Light mist for instance has a tendency to stabilise the air making for more calm seeing conditions, as long as it is not too thick of course.

So as keen astronomers we probably take advantage of clear skies wherever you live (not me though as I have various neighbours who like to have security lights going on and off every 6 minutes), but sometimes we get visitors to our observing sessions who don't have their own equipment, so it is important they can get to see not only the most famous of deep sky objects but also have a go at looking at some of the more challenging ones. So I like to take the chance of seeing faint fuzzies also into consideration. Sometimes however, I feel like just taking a punt and see how it goes.

I have been successful and been treated to glorious deep black skies on occasion. But also I have been sat there on my own looking up at thick clouds kicking myself. But I have to stay in case somebody wanders by and asks 'are you the stargazers?' to which I like to strike up a conversation to divert them from the thick clouds passing overhead and to let them know all about the society.

So it's 4pm on a Friday and I have to make a decision and I don't know what to do. I take one last look at the apps, one last look at the skies outside. It's still 50/50 so what do I do still? I weight it all up and if I think we can get a couple of hours of reasonable observing, get to see some planets or faint fuzzies, maybe get a passer by to take a look through a scope and see something new in their lives, then I will do it. If not then I would not want people to drive a considerable distance to only have to turn around and go home or stand around in freezing weather in the hope of seeing something.

Of course, I get those remarks after an event about 'we could have done it as it was clear where I was'. Well great, get your kit out where you are take advantage of it. On the other hand maybe you should join the observing team as a volunteer and you can get to make the decision too.

Cheers Chris

Speaker biography:

Matthew Terrell, Amateur Astronomer.

43 Years old, married father of 2, living in Calne, Wilts. Working in Data Communications for 22 years.

Starting as a visual observer around 18 years ago, I've been imaging the night sky for around the last 12 years. Starting with a webcam, and an all manual 130mm Newtonian on an EQ2.

My current telescope is my 200mm RC in the garden observatory.

I love trying to get good pictures with cheaper telescopes, experimenting with new hardware, and getting my favourite objects (galaxies) to give up their secrets.

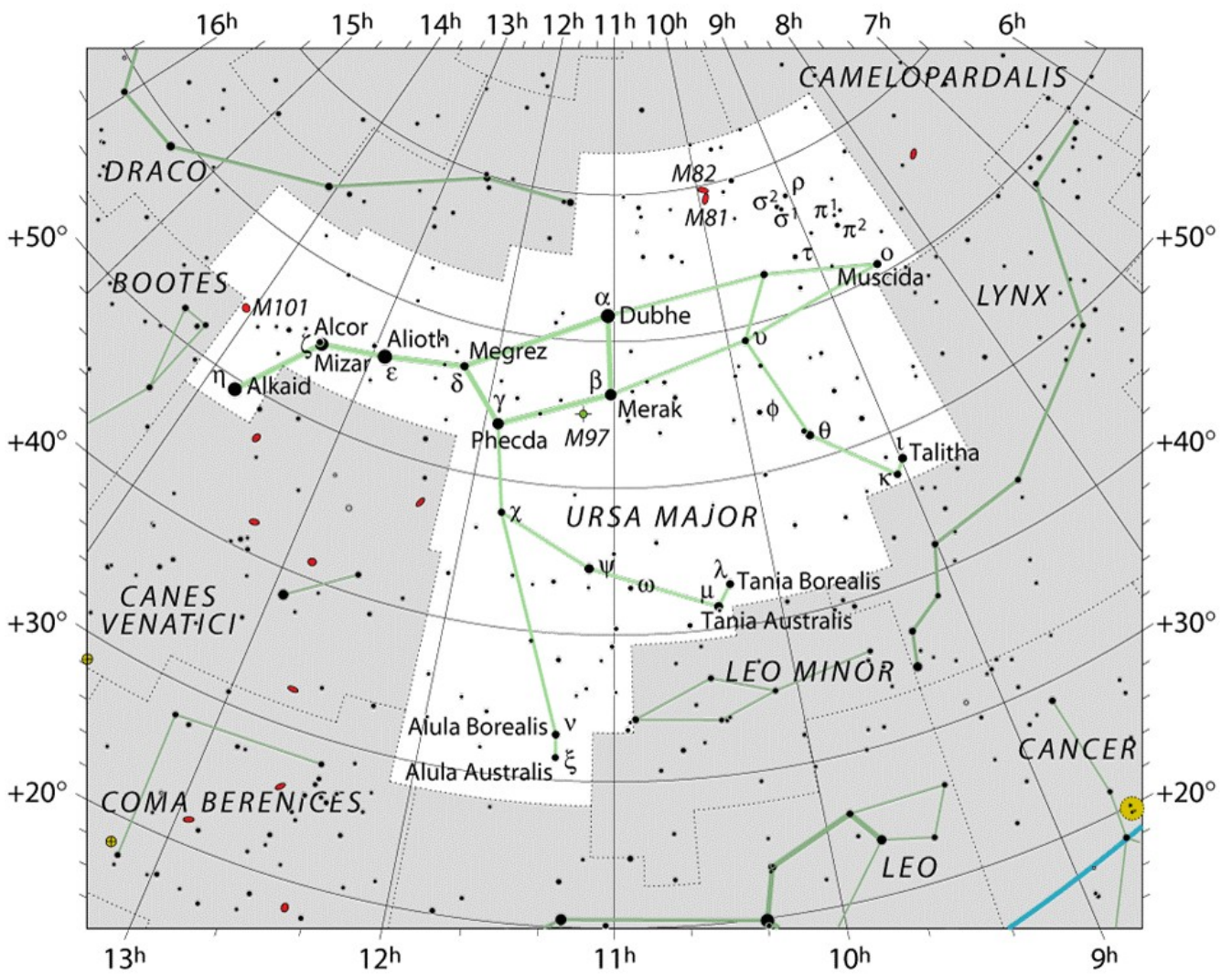
Running the local astronomy FB page Calne Amateur Astronomy Group (CAAG) and helping people out with their telescopes give me a great deal of satisfaction when not imaging.

I'm looking to take up 3D printing to take some of my ideas further.

February 2025						
Sun	Mon	Tues	Wed	Thur	Fri	Sat
26 Sun: 07:57 16:50 Moon: 06:22 12:50	27 Sun: 07:56 16:51 Moon: 07:16 13:56	28 Sun: 07:54 16:53 Moon: 07:56 15:15	29 Sun: 07:53 16:55 Moon: 08:23 16:42	30 Sun: 07:51 16:57 Moon: 08:43 18:12	31 Sun: 07:50 16:59 Moon: 08:59 19:40	1 Sun: 07:48 17:00 Moon: 09:12 21:06
2 Sun: 07:47 17:02 Moon: 09:25 22:32	3 Sun: 07:45 17:04 Moon: 09:37 24:00	4 Sun: 07:44 17:06 Moon: 09:52 -----	5 Sun: 07:42 17:08 Moon: 10:10 01:29	6 Sun: 07:40 17:10 Moon: 10:36 02:57	7 Sun: 07:39 17:11 Moon: 11:13 04:21	8 Sun: 07:37 17:13 Moon: 12:06 05:33
9 Sun: 07:35 17:15 Moon: 13:15 08:27	10 Sun: 07:33 17:17 Moon: 14:33 07:05	11 Sun: 07:31 17:19 Moon: 15:55 07:31	12 Sun: 07:30 17:21 Moon: 17:14 07:49	13 Sun: 07:28 17:23 Moon: 18:30 08:03	14 Sun: 07:26 17:24 Moon: 19:44 08:14	15 Sun: 07:24 17:26 Moon: 20:55 08:24
16 Sun: 07:22 17:28 Moon: 22:05 08:33	17 Sun: 07:20 17:30 Moon: 23:17 08:43	18 Sun: 07:18 17:32 Moon: ----- 08:55	19 Sun: 07:16 17:33 Moon: 00:29 09:10	20 Sun: 07:14 17:35 Moon: 01:44 09:29	21 Sun: 07:12 17:37 Moon: 02:57 09:57	22 Sun: 07:10 17:39 Moon: 04:07 10:37
23 Sun: 07:08 17:41 Moon: 05:06 11:33	24 Sun: 07:06 17:42 Moon: 05:51 12:46	25 Sun: 07:04 17:44 Moon: 06:23 14:10	26 Sun: 07:01 17:46 Moon: 06:46 15:40	27 Sun: 06:59 17:48 Moon: 07:04 17:10	28 Sun: 06:57 17:50 Moon: 07:18 18:39	1 Sun: 06:55 17:51 Moon: 07:31 20:08
2 Sun: 06:53 17:53 Moon: 07:44 21:39	3 Sun: 06:51 17:55 Moon: 07:58 23:10	4 Sun: 06:48 17:56 Moon: 08:15 -----	5 Sun: 06:46 17:58 Moon: 08:38 00:42	6 Sun: 06:44 18:00 Moon: 09:12 02:10	7 Sun: 06:42 18:02 Moon: 10:00 03:27	8 Sun: 06:40 18:03 Moon: 11:04 04:26

# Constellation of the Month

## Ursa Major



● 1 ● 2 ● 3 ● 4 ● 5 ● 6



## Ursa Major

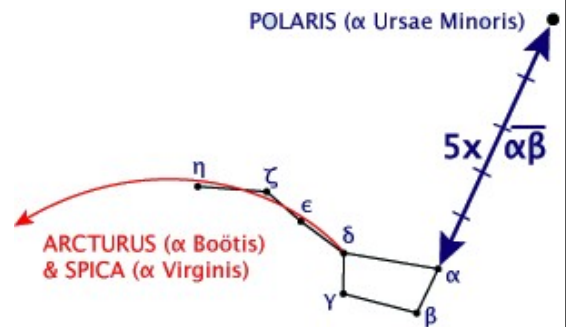
Ursa Major is primarily known from the asterism of its main seven stars, which has been called the "Big Dipper", "the Wagon", "Charles's Wain", or "the Plough", among other names. In particular, the Big Dipper's stellar configuration mimics the shape of the "Little Dipper". Two of its stars, named Dubhe and Merak ( $\alpha$  Ursae Majoris and  $\beta$  Ursae Majoris), can be used as the navigational pointer towards the place of the current northern pole star, Polaris in Ursa Minor.

The constellation is visible throughout the year from most of the Northern Hemisphere, and appears circumpolar above the mid-northern latitudes. From southern temperate latitudes, the main asterism is invisible, but the southern parts of the constellation can still be viewed covering 1279.66 square degrees or 3.10% of the total sky, making it the third largest constellation. Except for Dubhe and Alkaid, the stars of the Big Dipper all have proper motions heading toward a common point in Sagittarius. A few other such stars have been identified, and together they are called the Ursa Major Moving Group.

Ursa Major contains a number of notable stars and famous deep sky objects. These include the Pinwheel Galaxy (M101), Bode's Galaxy, the Cigar Galaxy, and the Owl Nebula.

The Big Dipper is also very useful in navigation as it points the way to Polaris, the North Star (Alpha Ursae Minoris), which is a part of another famous asterism, the Little Dipper in Ursa Minor constellation.

If you follow the imaginary line from Merak to Dubhe and continue the arc, you will eventually reach the Northern Star.



### Bode's Galaxy – Messier 81 (M81, NGC 3031)

**Messier 81** is a bright, large spiral galaxy about 11.8 million light years distant from Earth. Because of its relative proximity and brightness – it has an apparent magnitude of 6.94 – M81 is a popular target both for beginners and professional astronomers. The galaxy's apparent size is 26.9 x 14.1 arc minutes. Only one supernova has been discovered in it: SN 1993J, in March 1993.

### Cigar Galaxy – Messier 82 (M82, NGC 3034)

**Messier 82** is an edge-on starburst galaxy about 11.5 million light years from the solar system. It has an apparent magnitude of 8.41.

### Owl Nebula – Messier 97 (M97, NGC 3587)

The Owl Nebula is a planetary nebula about 2,600 light years away from the solar system. It has an apparent magnitude of 9.9. The nebula was first discovered by the French astronomer Pierre Méchain in 1781. It is believed to have formed about 8,000 years ago. It has a 16th magnitude star at its centre. It got its name because of its appearance of owl-like eyes when observed through a large telescope.

### Pinwheel Galaxy – Messier 101 (M101, NGC 5457)

The Pinwheel Galaxy is a grand design spiral galaxy seen face-on. It has an apparent magnitude of 7.86 and is 20.9 million light years distant from Earth. The Pinwheel Galaxy is about 170,000 light years in diameter, which makes it about 70 percent larger than the Milky Way galaxy. It contains a number of large, bright H II regions, full of bright, hot newly formed stars. M101 has five notable companion galaxies: NGC 5474, NGC 5204, NGC 5477, NGC 5585 and Holmberg IV. The grand design pattern of the Pinwheel Galaxy is suspected to be a result of the interaction between the galaxy and its companions.

### Messier 108 (M108, NGC 3556)

Messier 108 is a barred spiral galaxy. The galaxy has a visual magnitude of 10.7 and is approximately 45,000 light years distant. A type 2 supernova, 1969B, was observed in M108 in 1969.

### Messier 109 (M109, NGC 3992)

Messier 109 is another barred spiral galaxy in Ursa Major. It is located southeast of the star Phecda (Gamma Ursae Majoris). The galaxy has an apparent magnitude of 10.6 and is 83.5 million light years distant. A type Ia supernova, SN 1956A, was seen in the galaxy in 1956. So far it has been the only supernova observed in M109.

M109 has at least three satellite galaxies, UGC 6923, UGC 6940 and UGC 6969. It is the brightest galaxy in the M109 Group, a large group consisting of more than 50 galaxies in Ursa Major.



M81 and M82



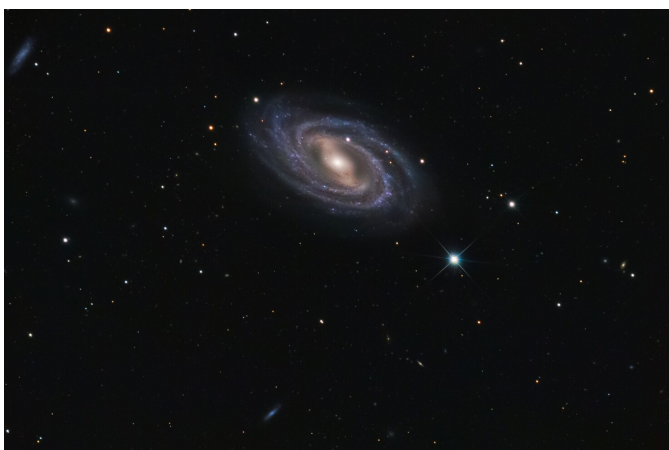
M97



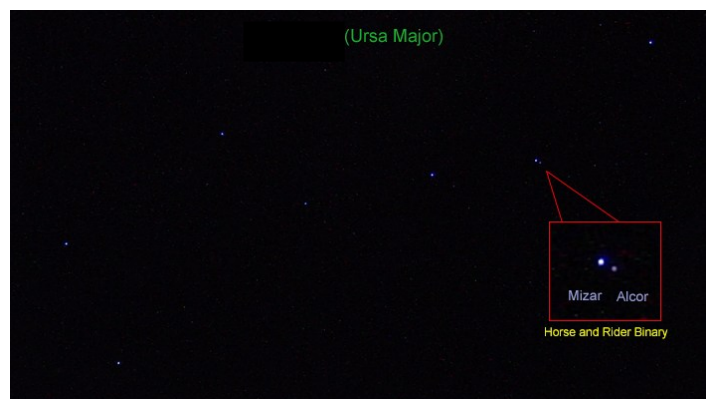
M101



M108



M109



Alcor and Mizar Naked Eye Double Star

**Mercury** After 9 February Mercury will set after the Sun progressively, and will move from Aquarius to Pisces on 26 February (magnitude  $-1.0$  to  $-1.6$ )

**Venus** on 7 February the planet will reach its highest point in the sky and will be its brightest on 16 February shining at magnitude  $-4.6$  and sets several hours after the Sun.

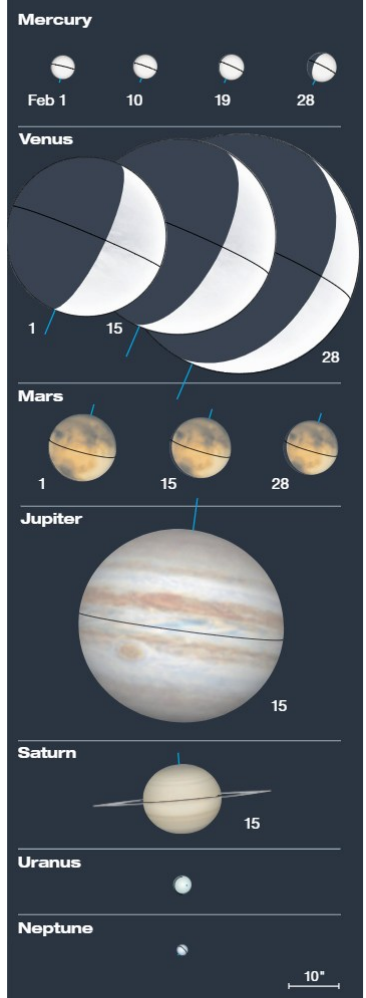
**Mars** Will be visible all night having a higher brightness at the beginning of the month. Its magnitude will be  $-1.1$  to  $-0.3$ .

**Jupiter** on 4th February will cease its retrograde motion (magnitude  $-2.5$ ) in Taurus and will begin its eastward motion in the sky.

**Saturn** at magnitude  $1.1$  lies low in the western sky shortly after sunset.

**Uranus** will be high in Aries a few hours before midnight shining at magnitude  $7.7$  to  $7.8$ .

**Neptune** will lie in Pisces at magnitude  $7.8$ .



#### Other key moments during February:

1st February— Saturn  $1.0^\circ$  S of the Moon at 04:46. Venus will  $2.3^\circ$  N of the Moon at 20:27

5th February— Moon First Quarter.

6th February— Pleiades  $0.5^\circ$  S of the moon at 06:43.

9th February— Mars  $0.8^\circ$  S of the moon at 19:36

12th February— Full Moon

17th February— Spica  $0.3^\circ$  N of the moon at 12:01

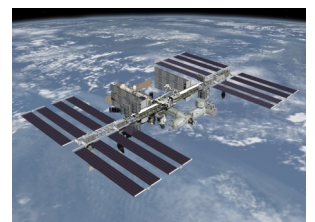
20th February — Moon last quarter

21st February—Antares  $0.4^\circ$  N of the moon at 08:21

28th February— Full Moon

For further information about the current night sky, you can go to various web pages e.g., Sky and Telescope <https://skyandtelescope.org/observing> or the British Astronomical Society <https://britastro.org/news/sky-notes>

Date	Bright-ness (mag)	Start Time	Alt.	Az.	Highest point			End			Pass type
					Time	Alt.	Az.	Time	Alt.	Az.	
13-Feb	-0.5	06:13:19	10°	SSE	06:14:13	11°	SE	06:15:08	10°	ESE	visible
15-Feb	-1.4	06:08:28	10°	SSW	06:11:04	21°	SE	06:13:40	10°	E	visible
16-Feb	-1	05:19:35	10°	S	05:21:29	15°	SE	05:23:24	10°	ESE	visible
17-Feb	-2.6	06:04:44	10°	SW	06:07:51	38°	SSE	06:10:59	10°	E	visible
18-Feb	-2.1	05:17:01	22°	S	05:18:07	27°	SSE	05:20:59	10°	E	visible
19-Feb	-1.2	04:29:16	17°	ESE	04:29:16	17°	ESE	04:30:47	10°	E	visible
19-Feb	-3.5	06:02:05	16°	WSW	06:04:35	64°	SSE	06:07:53	10°	E	visible
20-Feb	-3.2	05:14:12	43°	S	05:14:41	48°	SSE	05:17:54	10°	E	visible
21-Feb	-1.5	04:26:13	23°	ESE	04:26:13	23°	ESE	04:27:50	10°	E	visible
21-Feb	-3.8	05:59:01	19°	W	06:01:14	88°	S	06:04:34	10°	E	visible
22-Feb	-3.9	05:10:56	68°	SSW	05:11:13	75°	SSE	05:14:31	10°	E	visible
23-Feb	-1.6	04:22:47	26°	E	04:22:47	26°	E	04:24:25	10°	E	visible
23-Feb	-3.8	05:55:34	20°	W	05:57:45	83°	N	06:01:04	10°	E	visible
24-Feb	-4	05:07:21	75°	W	05:07:37	86°	N	05:10:56	10°	E	visible
25-Feb	-1.7	04:19:06	27°	E	04:19:06	27°	E	04:20:45	10°	E	visible
25-Feb	-3.8	05:51:53	19°	W	05:54:05	89°	SW	05:57:24	10°	E	visible
26-Feb	-4	05:03:34	72°	WNW	05:03:51	84°	N	05:07:10	10°	E	visible
27-Feb	-1.7	04:15:15	27°	E	04:15:15	27°	E	04:16:54	10°	E	visible
27-Feb	-3.7	05:48:01	19°	W	05:50:12	66°	SSW	05:53:29	10°	ESE	visible
28-Feb	-4	04:59:41	74°	WSW	04:59:55	82°	SSW	05:03:13	10°	ESE	visible
01-Mar	-1.6	04:11:20	25°	E	04:11:20	25°	E	04:12:52	10°	E	visible
01-Mar	-3.2	05:44:07	19°	W	05:46:03	40°	SSW	05:49:10	10°	SE	visible
02-Mar	-3.7	04:55:48	56°	SSW	04:55:48	56°	SSW	04:58:58	10°	ESE	visible
03-Mar	-1.4	04:07:30	20°	ESE	04:07:30	20°	ESE	04:08:37	10°	ESE	visible
03-Mar	-2.4	05:40:18	18°	WSW	05:41:36	23°	SW	05:44:16	10°	SSE	visible
04-Mar	-2.5	04:52:04	28°	S	04:52:04	28°	S	04:54:16	10°	SE	visible





## **Dark energy doesn't exist, scientists say in shock claim that could solve one of universe's biggest mysteries**

(by Andrew Griffin—*The Independent*)

Dark energy does not exist, some scientists have claimed – which could help get rid of one of the universe's biggest mysteries.

For a century, scientists have thought that the universe was expanding in all directions. To make that assumption work, astronomers have used the concept of dark energy.

Dark energy cannot be seen directly and has never been proven. But scientists have suggested that it must exist because of the effect it seemingly exerts on the universe and as it is needed to help resolve some fundamental problems in our understanding of the cosmos.

Now, however, researchers from the University of Canterbury say that the universe is not actually expanding equally in all directions. Instead, it is growing in a “lumpier” way, in more varied directions.

That in turn may do away for the need for dark energy. It instead supports a different model of cosmic expansion that suggests the unusual results seen in the way light stretches are a result not of how the universe is expanding but the way we think about time and distance.

Scientists say that the confusion may be the result of the fact that gravity slows time. Clocks would tick faster in empty space than they would in a busy galaxy, for example.

As such, a clock in the Milky Way would be ticking about 35 per cent slower than one in a big cosmic void, for instance. Those voids would see billions of years that would not be present in our galaxy – and so have more time to grow and dominate the universe.

“Our findings show that we do not need dark energy to explain why the Universe appears to expand at an accelerating rate,” said David Wiltshire from the University of Canterbury in Christchurch, New Zealand, who led the study.

“Dark energy is a misidentification of variations in the kinetic energy of expansion, which is not uniform in a Universe as lumpy as the one we actually live in.

“The research provides compelling evidence that may resolve some of the key questions around the quirks of our expanding cosmos.

“With new data, the Universe's biggest mystery could be settled by the end of the decade.”

The research is published in a new paper, *'Supernovae evidence for foundational change to cosmological models'*, in the *Monthly Notices of the Royal Astronomical Society Letters*.