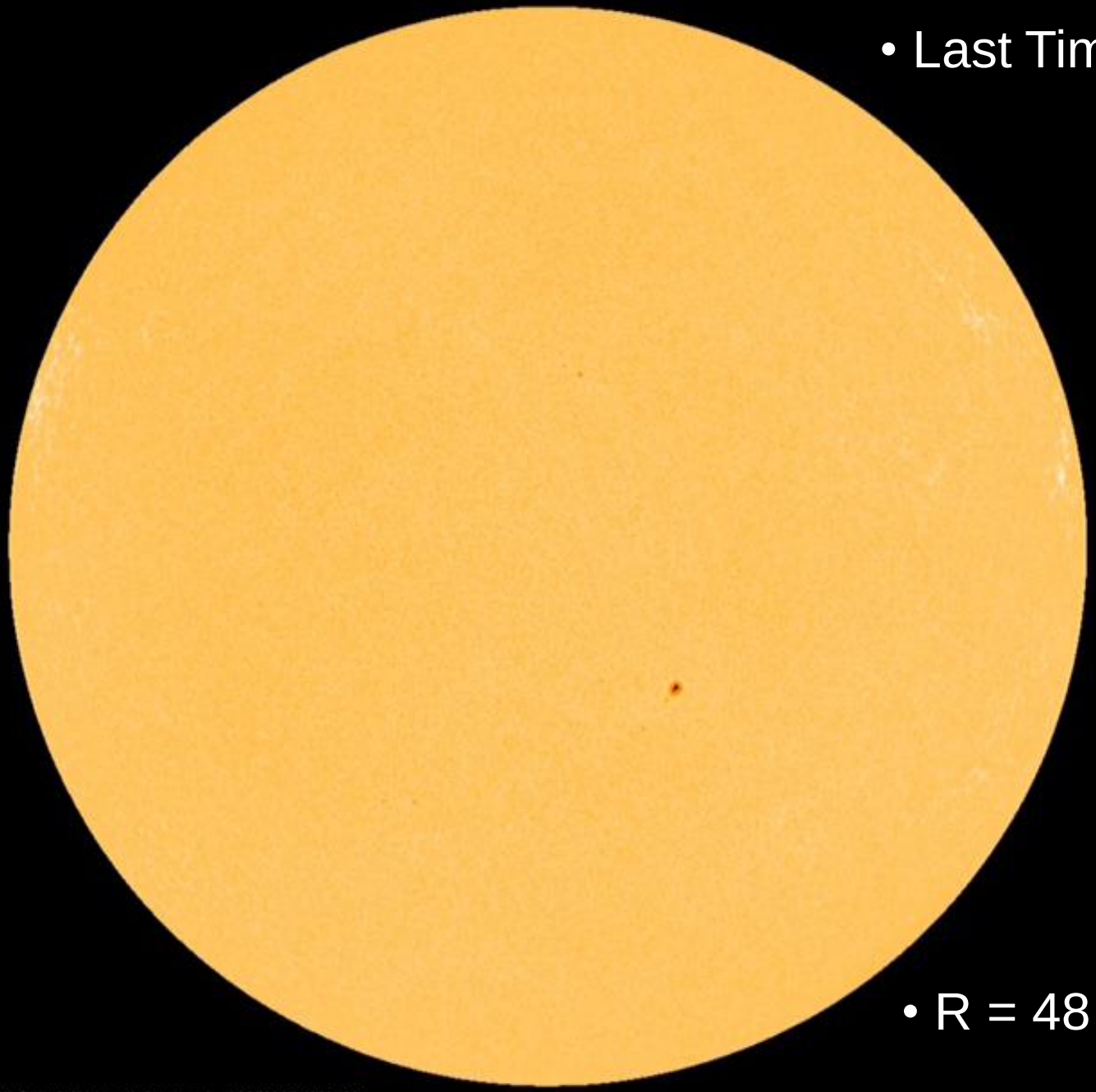
What's Up?

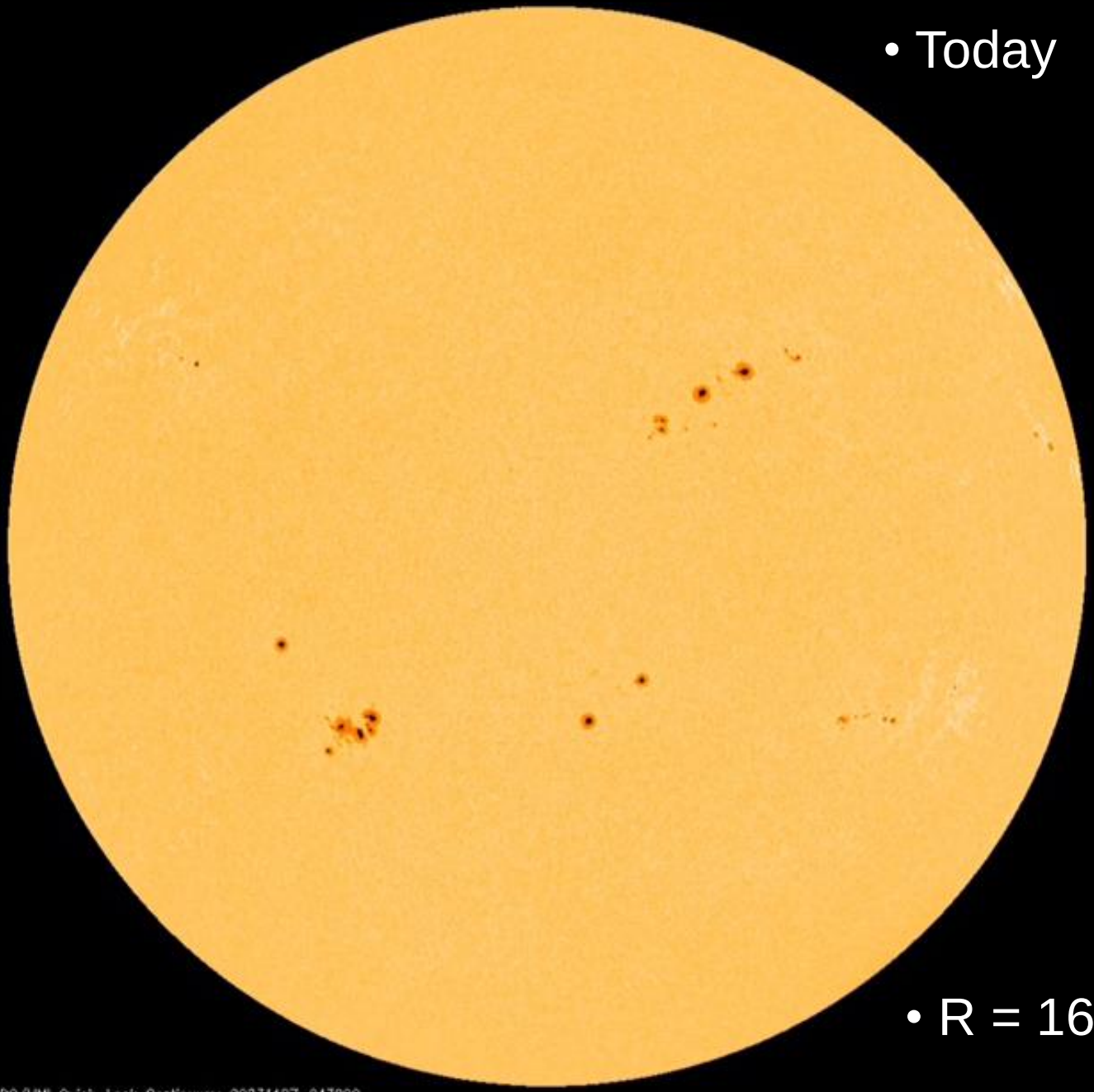
2023 November 27 to
2024 January 22

Bill Barton, FRAS



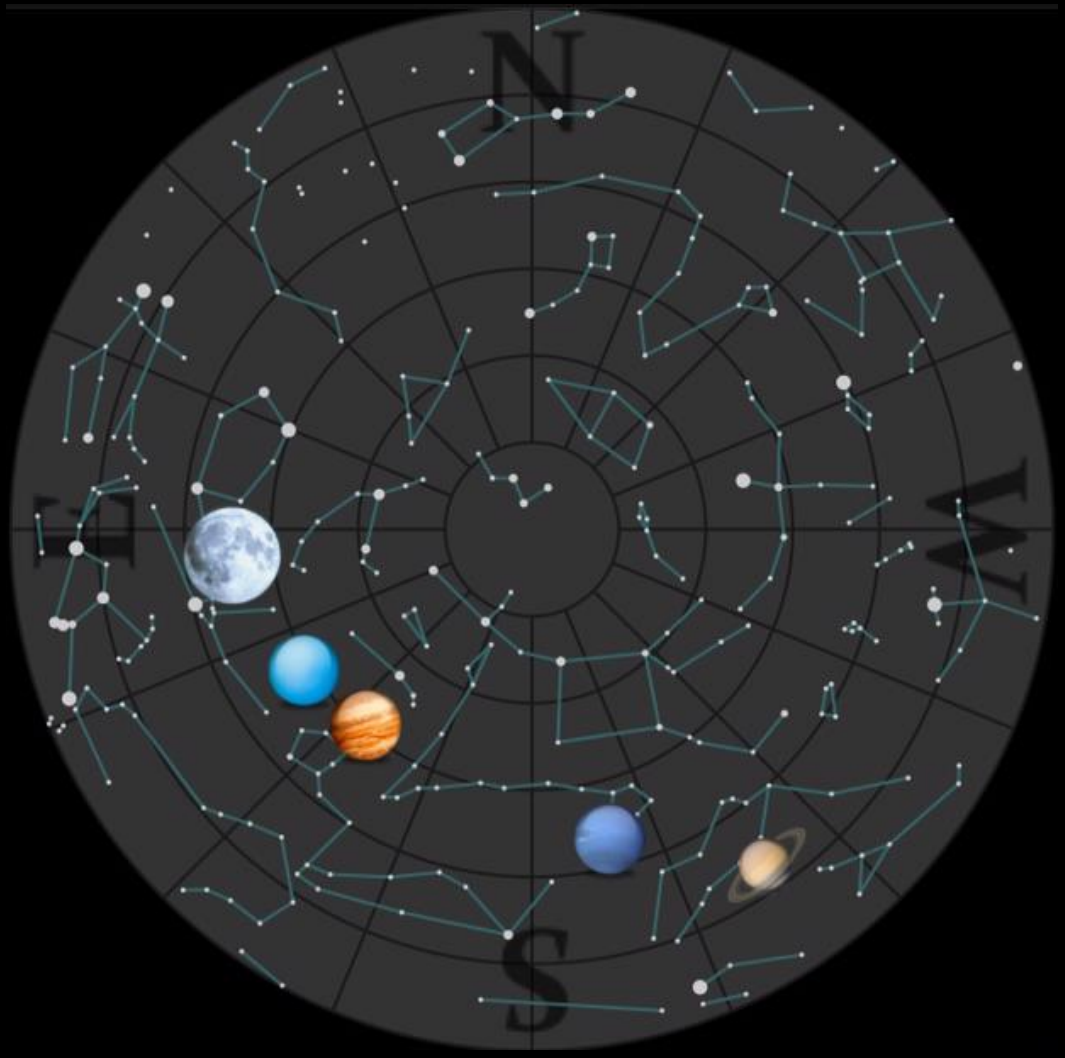
- Last Time

- R = 48

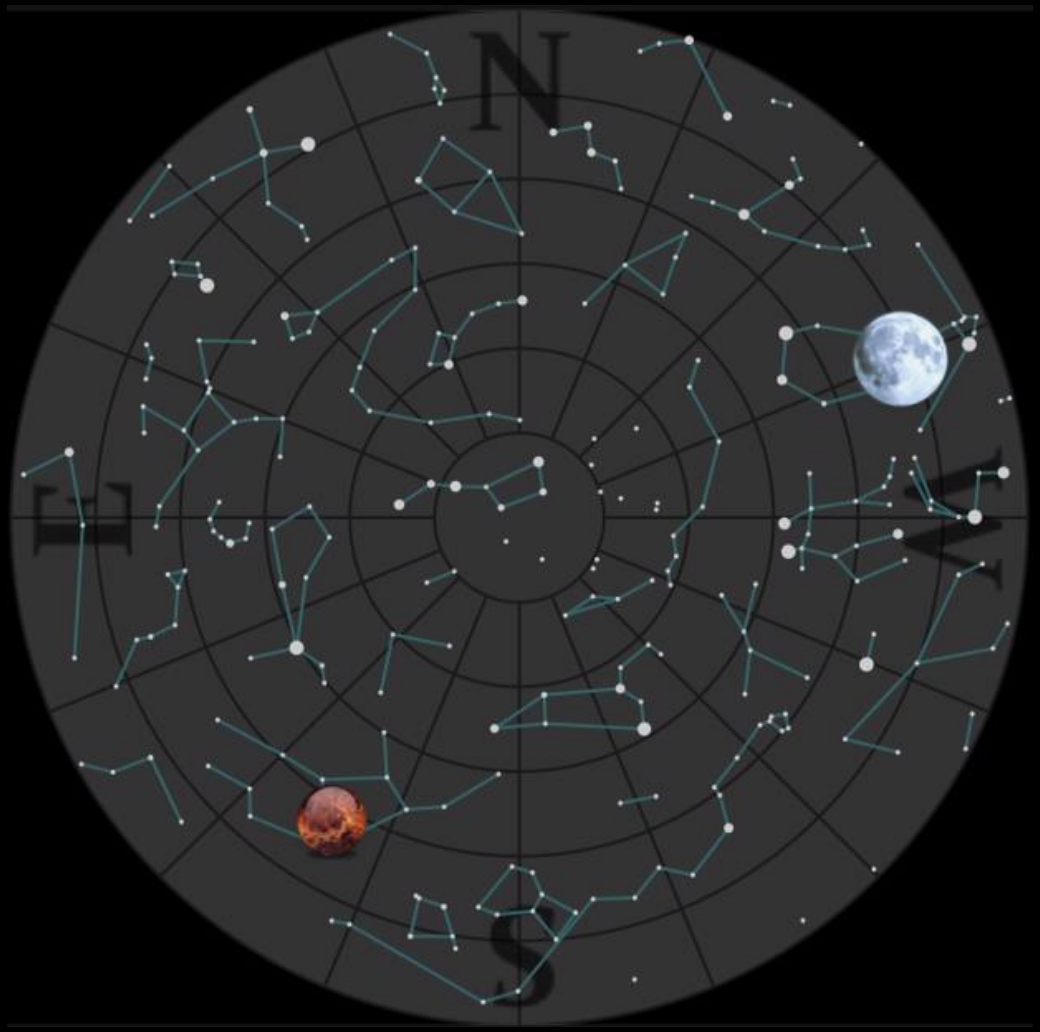


- Today

- R = 169



- The Sky 20:00 Tonight



- The Sky 07:00 Tomorrow

Inner Solar System

- Sun
  - Declination decreasing, solstice Dec. 22, perihelion Jan. 03
  - Last sunspot min., Apr. 2020, next max., Jul. 2025 (R≈115?)
- Mercury
  - In evening sky, greatest elongation Dec. 04 (21°) currently 20°, mag -0.4, decreasing (+5 to -2)
  - Inferior conjunction (between us and Sun) Dec. 22
  - Then in morning sky, greatest elongation Jan. 12
  - Today, rise 09:30, transit 13:00, set 16:35
  - “good observing opportunity” early Dec. & early Jan.
- Venus
  - In morning sky, greatest elongation Oct. 23 (46°), currently 43°
  - today, rise 03:20, transit 08:50, set 14:20

Earth

- Time
  - 00:00UT ≈ 02:00ST today
  - Today, sunrise 07:30, transit 11:40, sunset 15:50
  - End of period, sunrise 07:50, transit 12:05, sunset 16:20
  - Solstice Dec. 22, perihelion 2024 Jan. 03
- Moon
  -  Full, Nov. 27 (Frost), Dec. 27 (Long Night)
  -  Last Quarter, Dec. 05, Jan. 04
  -  New, Dec. 12, Jan. 11
  -  First Quarter, Dec. 19, Jan. 18
- Meteors
  - Geminids, Dec. 04-17, peak Dec. 14, ZHR 100+
  - Quadrantids, Dec. 28-Jan. 12. peak Jan. 04, ZHR 80+

More Meteors!

- Andromedids
  - parent object 3D/Biela
  - predicted peak 19:00, 02 Dec. 2023
  - ZHR could be 200?
  - best to observe nights of Dec. 1/2 and 2/3

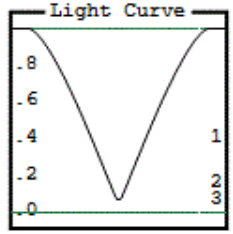
319 Leona occults HIP 27989 (Betelgeuse, α Ori) on 2023 Dec 12 from 1h 8m to 1h 26m UT

Star: (Dia = 48.1 mas)
Mv 0.5
RA = 5 55 10.3441 (astrometric)
Dec = 7 24 25.652 ...
[of Date: 5 56 29, 7 24 43]
Prediction of 2023 Oct 15.9
Reliable not available

Durations: Max = 11.6 secs
1km = 0.19 secs, 1mas = 0.25 secs
Mag Drop = 2.9 [93%]v
Sun : Dist = 162°
Moon: Dist = 151°, illum = 1%
1σ Err: ±(2.9 x 1.5) mas in PA 92°

Asteroid:
Mag = 14.2
Dia = 61 ±3km, 46 mas
Parallax = 4.864"
Hourly dRA =-1.949s
dDec = -3.98"
JPL#702023Sep28, Known errors

93% Annular Occn. Expect fades >12 secs (star dia)
Variable star



Occult 4.2023.10.11

Conjunctions

- none of note this period

Outer Solar System

- Mars
  - Conjunction Nov. 18. Opposition 2025 Jan. 16. Today, rise 07:20, transit 11:25, set 15:35
- Jupiter
  - Opposition Nov. 03. Conjunction 2024 May 18, Today, rise 14:40, transit 21:50, set 05:00
- Saturn
  - Conjunction 2024 Feb. 28. Opposition 2024 Sept. 08. Today, rise 12:45, transit 17:40, set 22:40
- Uranus
  - Opposition Nov. 13. Conjunction 2024 May 13. Today, rise 15:00, transit 22:40, set 06:15
- Neptune
  - Conjunction 2024 March 17. Opposition 2024 Sept. 20. Today, rise 13:20, transit 19:10, set 00:55

OASI Events

- Committee Meeting
  - Friday, Dec. 01, from 8:00pm, via Zoom

- Christmas Meal
  - Wednesday, Dec. 06, from 8:00pm, Newbourne Fox (Observatory closed)

- Monthly Zoom Meeting
  - Thursday, Dec. 21, from 8:00pm

Local Societies Events

- DASH (Darsham Village Hall, 7:00pm, Sundays)
  - TBA
- LYRA (Parkhill Hotel, Oulton, 7:30pm, Tuesdays)
  - TBA
- AAA (Whepstead Village Hall, 7:30pm, Wednesdays)
  - TBA

National Events I

- British Astronomical Association
  - Saturday Dec. 09, 14:00-18:00, Christmas Meeting, Institute of Physics, 37 Caledonian Rd., London (booking required to attend in person or live stream) with drinks reception after
    - Prof Martin Hendry, ‘Listening to Einstein’s Universe: Dawn, and Exciting Future, of Gravitational-Wave Astronomy’
    - Prof Lyndsay Fletcher, ‘Exploring the Solar Atmosphere: A Journey Through the Sun’s Spectrum’
    - Nick James, ‘Sky Notes’
  - Saturday Jan. 20, 14:30-18:00, Institute of Physics, 37 Caledonian Rd., London (and live stream)
    - Mike Frost, ‘Eclipse and Revelation’
    - Stephen Ramsden, ‘The Beauty of Light’ (remote presentation from Atlanta)
    - Nick James, ‘Sky Notes’

National Events II

- Royal Astronomical Society
  - Friday Dec. 08, 16:00-18:00, The Geological Society, Burlington House, London, ‘The making of an observatory: the early years of the Cambridge Observatory’, Dr Daniel Belteki (+live stream)

Halley's Comet

- At aphelion on Dec. 09
  - 35.25 AU (3.28 billion miles or 5.27 billion km) from the Sun, well beyond the orbit of Neptune
  - Last perihelion Feb. 09, 1986 (mag +2.1)
  - Next perhelion July 28, 2061 (predicted mag -0.3)

  - Following perhelion Mar. 27, 2134, on May 07, 2134, Halley will pass within 0.092 AU (8.5 million miles, 13.8 million km) of Earth, predicted mag -2.0.

2024 Lookahead

- Eclipses
  - Total solar, Monday Apr. 08, USA
  - Partial lunar, Wednesday Sept. 18, UK, 03:15-04:15

- Lunar Occultation
  - Saturn, Wednesday Aug. 21, 04:30-05:20 (civil twilight starts 05:10, sunrise 05:45. full moon, Aug. 19, last quarter, Aug. 26)

- Orwell Park Observatory
  - 150 years since ‘first light’