Podcast 133, Observing List
Tonight's Observing List
July

1) **Arcturus**: 37 LY away, 25x larger than our sun, 4 solar masses, 115x more luminous.
2) **Spica:** Blue star, 260 LY.
3) **Vega:** Blue star, 26 LY away, 58x more luminous than our sun, 3x larger, 9200 degrees C.
4) **Altair**: 16 LY, 1.5x the size of our sun and 9x brighter. It spins 160 mps at the eq, 1 rot. in 6.5 hours.
5) **Deneb:** A Superstar, 1600 LY away, 60,000x brighter than our sun, 60x bigger than our sun.
6) **Antares**: Red Giant, 520 LY away, diameter is about 600 million miles, 9,000x brighter than the sun.

7) **Polaris (North Star):** The 49th brightest star in the sky. 800 LY away. 9 mag companion at 18".
8) **Albireo:** Double star, mag. 3.1 and 5.1, 34" apart. 385 LY away, stars are 50 of our solar systems apart.
9) **Epsilon Lyrae:** A double-double star. 162 light years away.
10) **Alcor/Mizar**: Double star, naked eye, plus the bright one too. 88 LY.
11) **Cor Caroli:** A double star 110 LY away, 8 solar systems can fit between these stars, 7,900 year orbit.
12) **Beta Scorpii:** A double star (there are 6 stars, only two visible), 400 LY away, mag 2.6/4.5 13.6".

13) **M 63**: Spiral galaxy, about 20 million LY away. About 50,000 LY across.
14) **M 94**: A galaxy. From Alpha CVN go 1 d preceding and 2.7 d N. About 14 million LY, 16,000 across.
15) **M 81/M 82**: Two galaxies, Close group-7 million LY.

16) **M 13:** Globular cluster, 25,000 LY, > 80,000 stars, 160 LY across.
17) **M 57**: Ring Nebula. 1500 light years away, and 0.5 light years across.
18) **M 27**: Dumbbell Nebula. About 2,000 LY away, and up to 8 light years across.
19) **M 4**: Globular star cluster. 6,000 LY away, 10,000+ stars.
20) **M 6**: Open cluster. About 1,600 LY away and 20 LY across. 120 stars.
21) **M 7**: Open cluster. About 800 LY away. About 80 stars.
22) **M 11:** Open cluster. 6,000 LY away and 21 LY across. At least 600 stars

23) **M 17**: A diffuse nebula. The Swan Nebula. 5000 LY away, bright part = 12 LY (72 trillion mi.) long.
24) **M 8**: Diffuse nebula with open star cluster. Lagoon Nebula, 5200 LY away.
25) **M 20**: A diffuse nebula. The Trifid Nebula. 1.5 deg. N of M8. About 5,000 LY away.
26) **M 22**: Globular cluster. About 10,000 LY away, with > 75,000 stars.

27) **T Lyra**: Red star, 0.7d W., 1.8 d S. Mag. 7.5 to 9.1.
28) **M 29**: Open cluster, 7200 LY away, 15 LY across.
29) **M 16**: Eagle Nebula, an open cluster and nebula. at 9,000 LY and 30 LY across.
30) **M 25**: Open cluster. 2,000 LY away. About 80 stars.
31) **M 24**: A large nebula. 9,400 LY away and 330 LY across. Light and dark areas.

Saturn: One of the most beautiful objects in the heavens. The rings are easy to see.
Jupiter: The largest planet, normally four moons are visible. Look for the stripes on the planet.

"Looking Up With Don" Podcast