

# Astrophotography Is Fun

Robert Vanderbei

September 24, 2025

Active Day, Hamilton NJ

<https://vanderbei.princeton.edu>



# Super Full Moon

June 14, 2022



# Crescent Moon

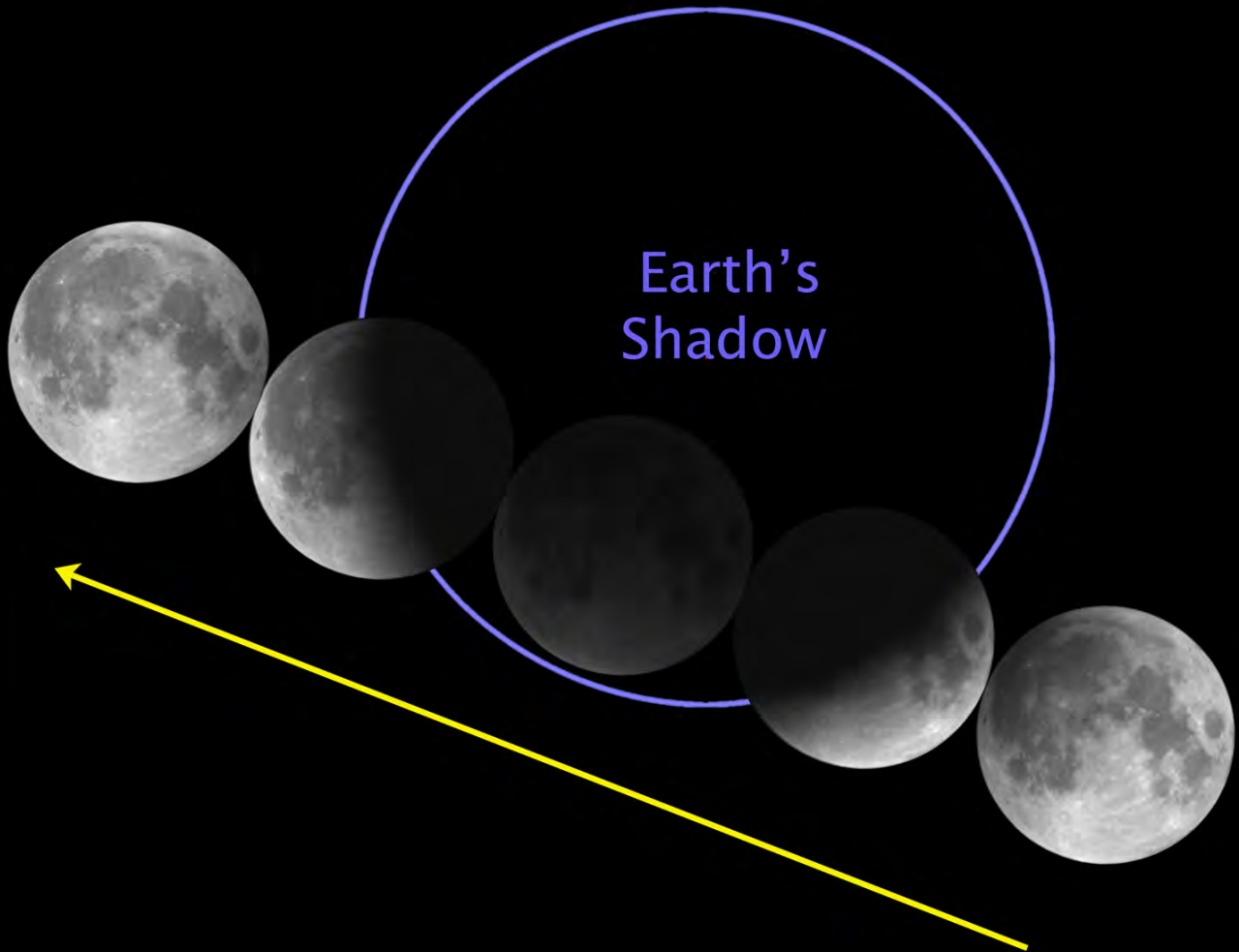
4:07pm Nov. 5, 2021



# Is The Earth Flat?

*A Picture's Worth a Thousand Words...*





How Aristarchus measured the size of the Moon.

# Lunar Eclipse

November 8, 2022



# Lunar Eclipse

November 8, 2022



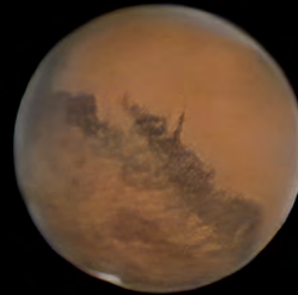
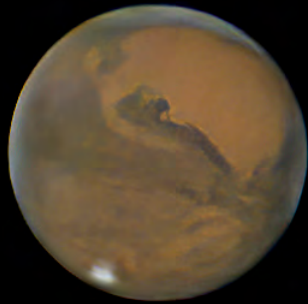
# Moon Occulted Mars

January 13, 2025



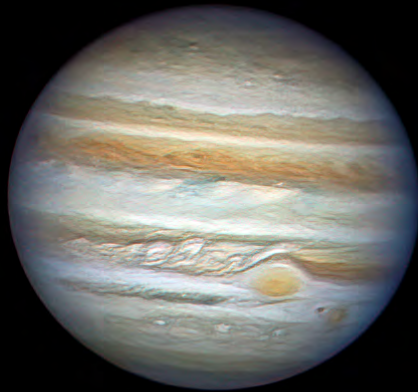
# Mars

Oct. 6 and 18, 2020



# Jupiter and Saturn

32 and 67 min



# Comet 103P / Double Cluster

1.2 min / 7,460 and 7,640 ly



# Looking Out Beyond Our Solar System

# Orion Nebula

Star Forming Region

1,344 ly



# Dumbbell Nebula

Dying Star

1,360 ly



# Horsehead and Flame Nebulas

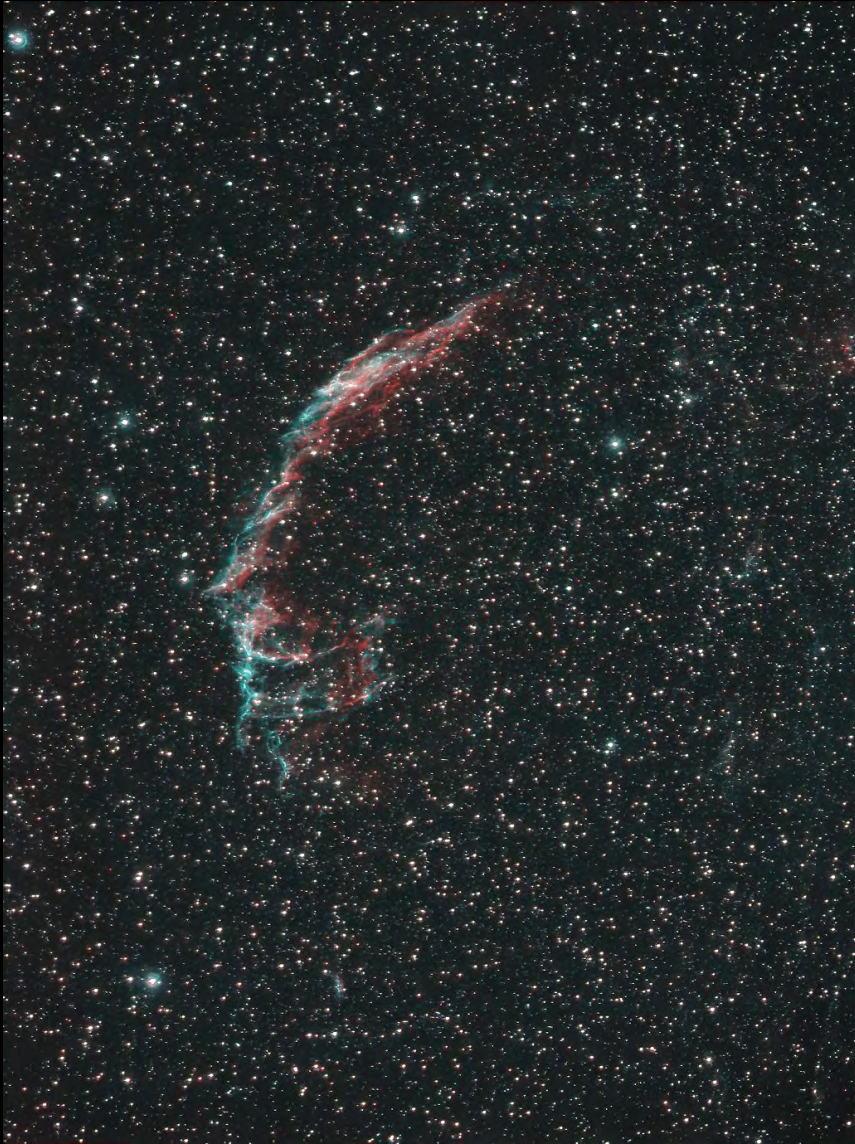
1,500 ly



# Veil Nebula

Supernova Remnant

2,400 ly



# Western Veil

2,400 ly



# Eastern Veil



# Ring Nebula

2,567 ly



# Crescent Nebula

5,000 ly



# Jellyfish Nebula

5,000 ly



# Rosette Nebula

5,200 ly



# Eagle Nebula

5,700 ly



# Crab Nebula

Mar. 26, 2019

6,500 ly



# Crab Nebula

Oct. 27, 2006

6,500 ly



# Bubble Nebula

$9,100 \pm 2,000$  ly



# Globular Cluster M13

22,200 ly



# Looking Out Beyond Our Milky Way

# The Andromeda Galaxy

2,450,000 ly



# M81 and M82

12,000,000 ly



# The Whirlpool Galaxy

31,000,000 ly



# The Whirlpool Galaxy

31,000,000 ly



# The Whirlpool Galaxy

31,000,000 ly



# The Leo Trio

32,000,000 ly



# The Needle Galaxy (NGC 4565)

42,700,000 ly



Questions?



### Temporary page!

$\LaTeX$  was unable to guess the total number of pages correctly. As there was some unprocessed data that should have been added to the final page this extra page has been added to receive it.

If you rerun the document (without altering it) this surplus page will go away, because  $\LaTeX$  now knows how many pages there are for this document.