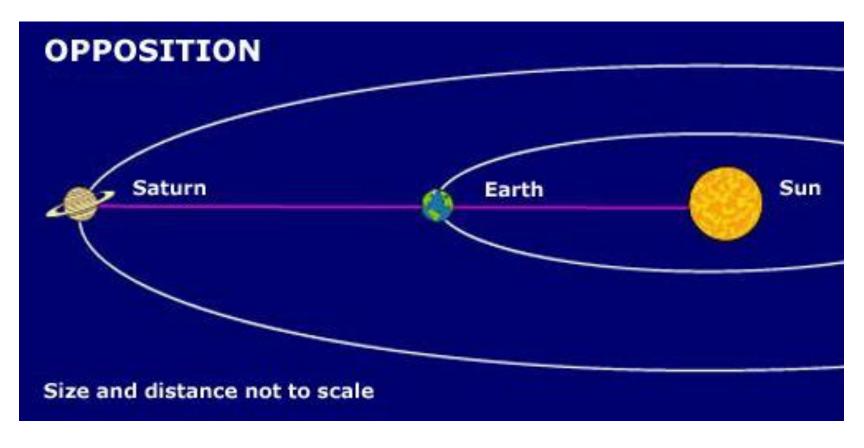
#### Astronomy Club of Asheville

### **September 2025 Sky Events**

#### **Gas Giant Saturn Closest to Earth this Month**

The planet Saturn, our solar system's "lord of the rings", reaches "opposition" (opposite the Earth from the Sun and closest for the year) on the night of **Sept. 20/21.** At "opposition" Saturn will be a bright magnitude of +0.6.

Saturn at
"opposition":
opposite the Earth
from the Sun and
closest for the year.

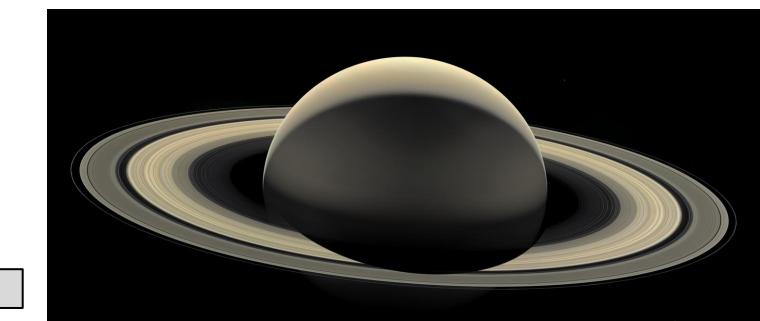


#### **Gas Giant Saturn Closest to Earth this Month**

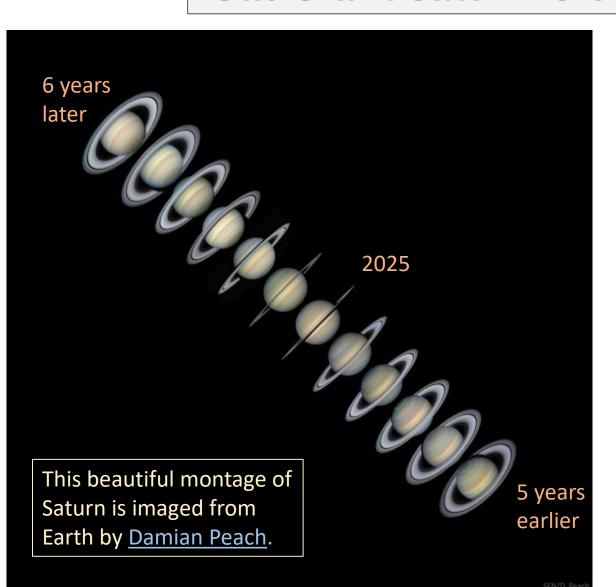
At this opposition, Saturn's ring system will be tipped at a narrow angle – very close to zero degrees.

Saturn is a fast rotator, with only a 10.7-hour day, but its orbit about the Sun takes 29.46 Earth years. Its disk is about 75,000 miles in diameter, but its icy ring system is some 175,000 miles across, with a maximum thickness of less than 100 meters!

Besides observing Saturn's spectacular ring system, modest amateur telescopes typically see up to 6 of Saturn's 274 known moons, including its largest and most famous moon – Titan.



#### **Gas Giant Saturn Closest to Earth this Month**

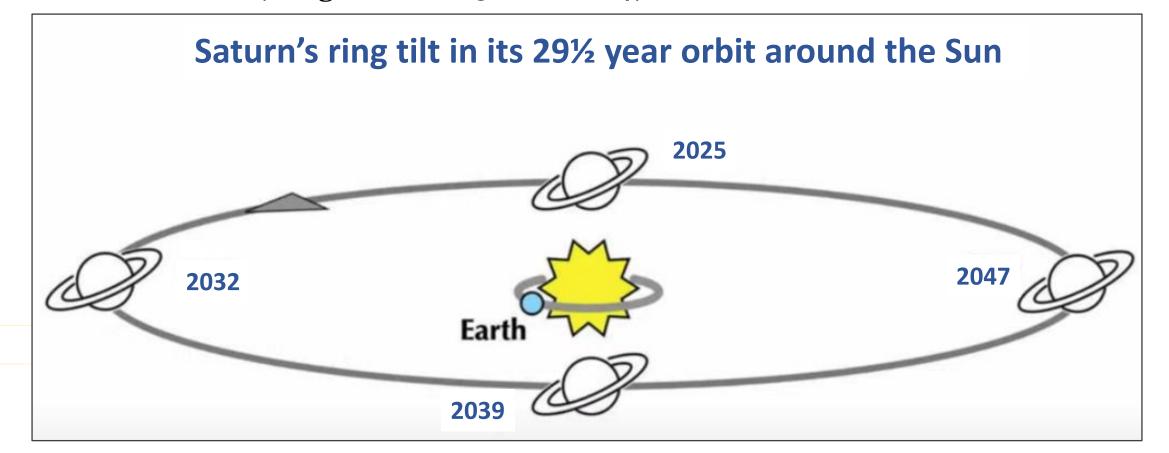


Saturn's ring system will be challenging to observe at this 2025 opposition, as those rings are very near edge-on as seen from Earth.

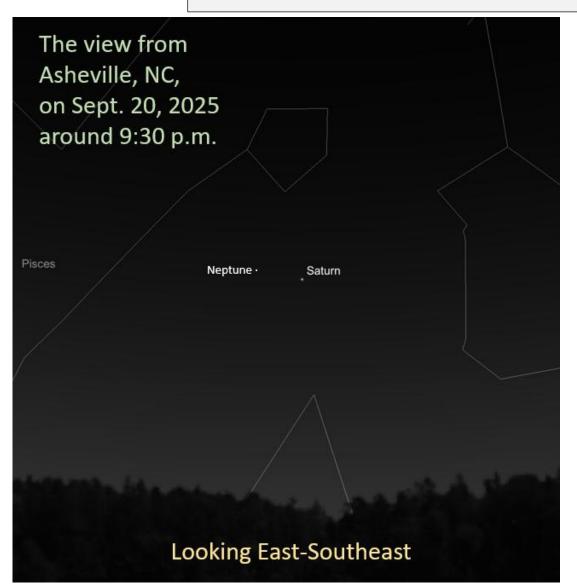
As Saturn advances in its orbit in the coming years, the view of the ring system will open up, exposing its southern hemisphere to our view. In 2032, Saturn's rings will be at their maximum exposure angle of 27 degrees and wonderfully displayed in all their splendor!

#### **Gas Giant Saturn Closest to Earth this Month**

Saturn's ring system tilt, as it orbits around the Sun, is illustrated below. The rings are very near edge-on as seen from Earth in 2025 and 2039, while they are at maximum tilt of 27 degrees in 2032 and 2047.



#### **Gas Giant Saturn Closest to Earth this Month**



Located in the zodiac constellation Pisces, the Fishes, Saturn is positioned some 795 million miles (or 71 light minutes) away from Earth at "opposition" on the night of Sept. 20/21.

Rising at dusk in the east, and setting at dawn in the west, the planet Saturn is visible all night during the weeks surrounding this opposition. By the end of September, Saturn will have moved into the constellation Aquarius.

Use binoculars or a small telescope to spot the faint, pale-blue disk of the planet Neptune, about 2½ degrees east of Saturn.

Illustration created with SkySafari and PowerPoint software