

DID SOMEONE STEAL SATURN'S RINGS?

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Imagine, for a moment, that it's a lovely summer evening in early September of this year. You heard from a friend that Saturn was out in the evening sky. You dust off the old telescope that has been tucked away in your garage for many years and decide to see this magnificent wonder of our solar system. Looking to the southwestern sky, you spot Saturn with your naked eye and set your scope to view it. You look through the eyepiece and see it, yet it's out of focus. As you dial in the focus, you notice something rather peculiar and quite surprising. "Where are the rings?" you say to yourself. "Could I be viewing a different planet? I have seen the rings before in this telescope and I know that the planet, in my field of view, has to be Saturn. But the rings are not there. Did someone steal the rings of Saturn?"

Well, don't fret. No one stole Saturn's rings. There was no wild conspiracy to eradicate the rings of Saturn nor did aliens blow the rings to kingdom come. In fact, the rings are very much there. What you are experiencing is a natural occurrence that happens every 14 to 15 years. This phenomenon is known as the 'ring plane crossing'.

To have a better understanding of the 'ring plane crossing' concept, here is a bit of background information about Saturn. Saturn is the sixth planet from the Sun and is also the second largest planet in our solar system. It is a gaseous planet made up of mostly hydrogen and helium and is one of the four gas giants in our solar system (Jupiter, Uranus, and Neptune are the other three). Saturn is about 893 million miles from the Sun, which makes Saturn more than 9 times farther from us than we are from the Sun. Being so far away, it takes almost 30 of our Earth years for Saturn to make one complete orbit around the Sun, (29.5 years to be more precise).

As this giant planet makes its orbit around the Sun, there are two times during its journey, (approximately every 14 to 15 years), that the tilt of Saturn's axis causes its rings to be "edge on" from our Earth's perspective. And, since the rings are very thin (only about 1 kilometer thick and made of billions of particles of ice, rock and gaseous material), during the two critical points in Saturn's orbit, it appears to viewers on Earth, that the rings of Saturn have disappeared. However, they are very much there.

Over the next several months, as we view this beautiful planet, it will appear to Earth-bound viewers that Saturn's rings slowly becoming narrower and narrower. Finally, on the evening of September 4, 2009, the rings will be at their thinnest, as viewed from Earth, making them look as if they have vanished. Now, you may say to yourself, "What's so special about viewing Saturn if you can't see the rings?" Well this narrow window of opportunity makes it an excellent time for astronomers to see more of the planet's detail because of the diminished glare that the rings normally project. Likewise, there will be better opportunities to see more of Saturn's 52 named moons.

Saturn has always been a favorite of astronomers both young and old and will continue to do so as we will always be fascinated by its majesty and splendor.

A LITTLE SATURN TRIVIA

- Did you know that Saturn is the least dense planet in our solar system and is actually less dense than water? Therefore, if you were to find a pool of water big enough to fit this planet, it would actually float!
- Saturn is also believed to have the highest wind speeds of all the planets, up to 1100 miles per hour.

- Saturn has an extremely hot core (about 11,700 degrees Centigrade). This causes Saturn to radiate 2.5 times more energy into space than it receives from the Sun.
- Saturn is NOT the only planet with rings. We now know that the other three gas giants (Jupiter, Uranus, and Neptune) have a ring system as well. However, they are not as large and dense as Saturn's ring system.