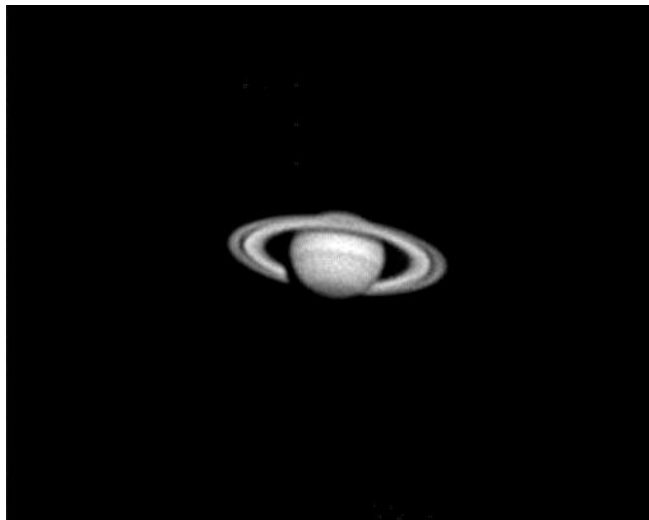


# THE SKY THIS MONTH

APRIL 2008

## SATURN: THE SOLAR SYSTEM'S RINGED WONDER

If you ask anyone what their favorite (non-Earth) planet is, you will likely hear the name "Saturn". If you ask why, you will most likely hear the word "rings".



The planet Saturn. Image by the author.

Saturn is the sixth planet from the Sun and certainly one of the most interesting planets in our Solar System. It has been viewed by countless astronomers; from antiquity to the present day. It never gets boring!

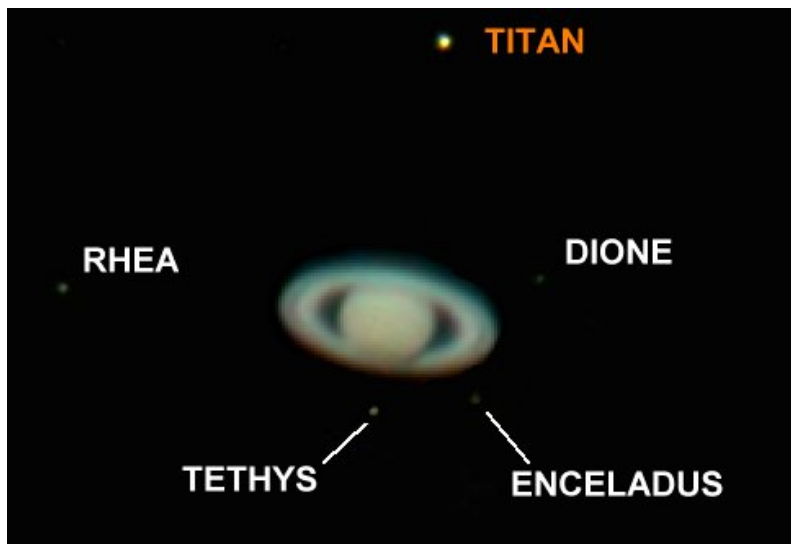
The planet Saturn itself (excluding the rings) has an equatorial diameter of 120,500 kilometers; nearly 10 times Earth's diameter! If you include the ring system, Saturn's diameter swells to nearly 300,000 kilometres!



Our Earth (left) is dwarfed by the immense size of Saturn (right).  
NASA/JPL image.

Saturn lies about 1.5 billion kilometres from the Sun; nearly 10 times further than the Earth's distance! Saturn's average temperature is minus 180 degrees Celsius. For comparison, the coldest temperature ever recorded on Earth was minus 89 degrees Celsius; about 90 degrees warmer than Saturn!

Of Saturn's nearly 50 known moons, only five can easily be viewed through the small telescope. These are Titan (the Solar System's largest moon), Rhea, Dione, Tethys and Iapetus.



Saturn with five of its largest moons. Iapetus was outside the frame during this exposure. Image by the author.

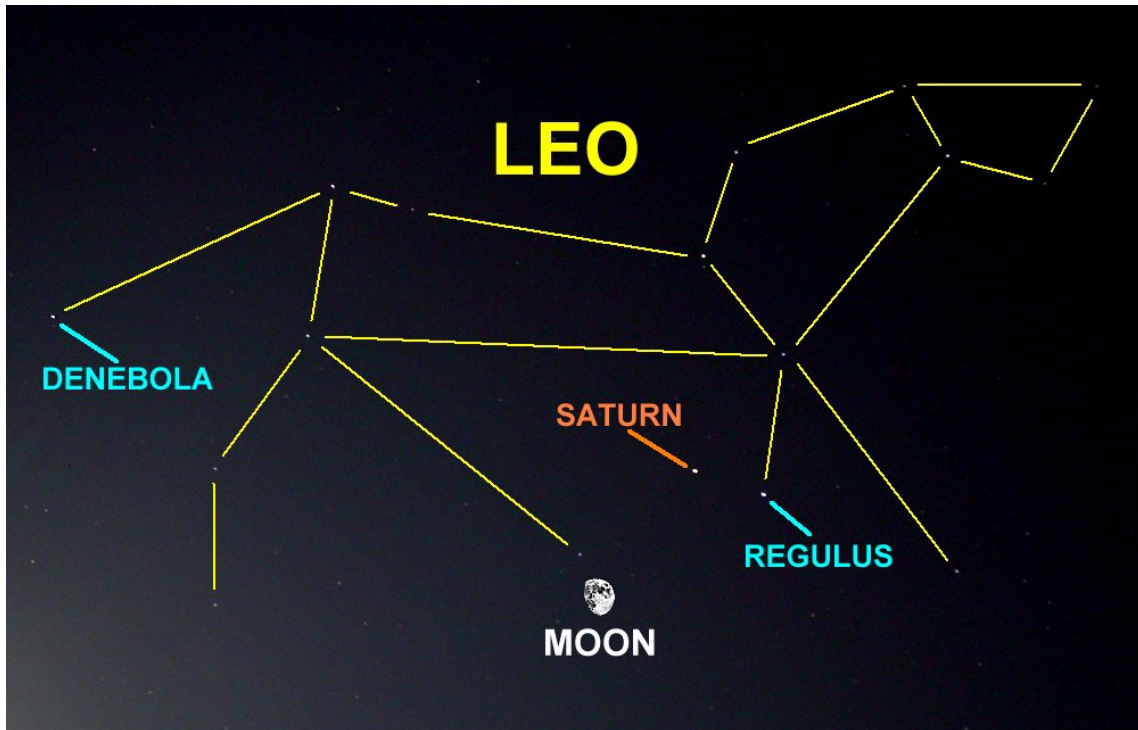
Saturn takes nearly thirty years to orbit the Sun once, meaning its seasons are nearly thirty times longer than Earth's. Each of Saturn's seasons lasts nearly 7.5 years.

Like Earth, Saturn is tilted on its axis. Saturn's tilt is about 27 degrees. Earth's tilt is about 23.5 degrees. We can see Saturn's rings change in orientation as its seasons change.

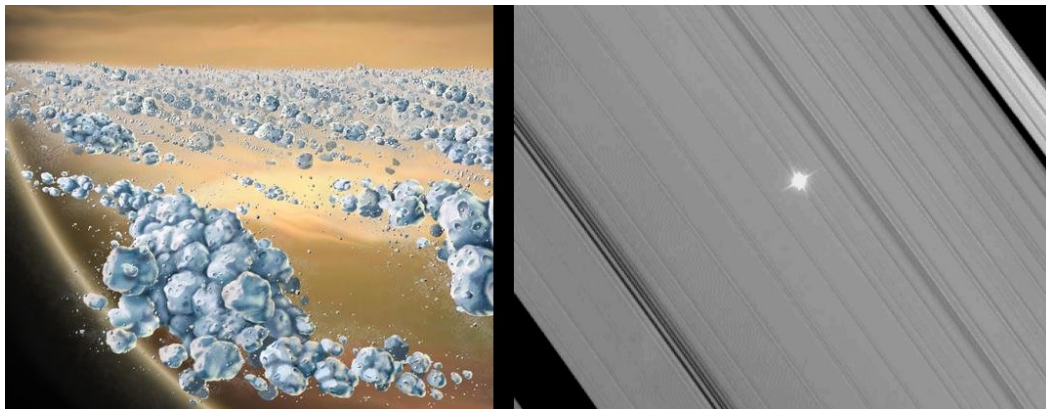


Two images of Saturn taken by the author in 1997 (left) and 2005 (right).

Saturn is the furthest planet that can be easily viewed with our naked eye. This month, Saturn will be hanging around the constellation Leo's brightest star Regulus.



The positions of Saturn and the Moon in Leo at 9 p.m. April 15, 2008. You should be able to easily pick out Regulus and Saturn using the Moon as a guide. If you have a telescope, try viewing Saturn through it!



Saturn's rings are not solid. They are made of millions of rock and ice fragments (left). We perceive them as solid because we are seeing them from a very large distance. However when the rings pass in front of a star, starlight can pass right through any spaces in the rings however small (right). NASA/JPL images.

Saturn is not the only planet with rings! Jupiter, Uranus and Neptune all have much thinner and fainter ring systems which cannot be seen with small telescopes.

If you ever get a chance to view Saturn through a telescope, go for it! You won't be disappointed!

### **THE SKY LAST MONTH – MARCH 2008**

A special thank you to those who enrolled in the 2008 Mill of Kintail Astronomy Course! We hope you are enjoying your celestial experiences!

### **THE SKY NEXT MONTH – MAY 2008**

**MERCURY'S QUICK! CATCH IT WHILE YOU CAN!**

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