



Farewell to Comet PanStarrs - it was nice seeing you!
Picture by LAS member Gary Garzone

Longmont Astronomy Society Newsletter
Longmont, Colorado
April 2013

From the President:

LAS Members,

The April 18 meeting will be at 7 pm in room C1154 at the Front Range Community College, 2190 Miller Drive, Longmont. Enter through door C1 which is at the southeast end of the classroom building.

This is always a challenging time of year for astronomy in Colorado. Just as the weather warms, the clear skies seems to vanish, giving night after night of clouds. Let's hope the pattern breaks soon - after we get a bit more rain. Until then we will have to rely on spontaneous observing sessions on those few clear days. By next month the Pawnee Grassland should have dried out and we can more easily get out to darker skies.

Vern has been very busy designing the proposed observatory at Sandstone. He will present some of his ideas at the April Meeting.

I will be giving the April presentation and the topic will be "Satellite Observing / Satellite Launching". The first part of the talk will discuss how to observe satellites and talk about the different types that are up there. The second half will discuss a nano-satellite that my company Southern Stars is launching this Fall. I will talk about the satellite's construction and its mission in space.

Wayne Green has promised us a great Constellation of the Month, focused on Lyra.

This year, Astronomy Day on April 20th has snuck up on me. I had hoped to get the club involved in some public event to promote our great hobby. Alas, it is too late now to pull that off. We do have a second chance on October 13 when the Astronomical League is having a second Astronomy Day promotion. Let's start planning soon for doing something this fall. The weather should be more cooperative as well.

See you at the April Meeting on the 18th, FRCC

Bill

In the sky this month:

Meteor Showers

The Lyrids. Radiating from Lyra in the East the morning of Apr. 22. Predictions of 10-20 per hour, but they vary widely. Comet Thatcher (1861 I)

Comet Halley remnants check in with the **Eta Aquarids**, radiating from Aquarius in the East, peaking on May 5. Prediction of 20-40 per hour. Thin crescent Moon provides little interference, and the temperature might even be decent.

Comets:

April 8: Good news from Swift. NASA's Swift spacecraft measured comet ISON in ultraviolet on January 30th and in February, and found that its nucleus was spraying 850 tons of dust per second even when still 2.7 a.u. from the Sun. Currently, it's at magnitude 16.1, if you want to give it a go. Best viewing: December in the morning sky. Comet of the Century? Stay tuned....

Planets

Mercury: near the Sun, don't bother

Venus: very low in the west at sunset

Mars: behind the Sun, no chance

Jupiter: 3 hours behind the Sun, still decent but getting lower at sunset

Saturn: pretty much at opposition, enjoy the next few months of rings

Current Extra-solar Planet count:

2781 candidates, 844 confirmed = 3625 total exoplanets.

Interesting Stars/Galaxies

Astronomers have spotted a star in our galaxy that races around a black hole at a breakneck speed, orbiting once every 2.4 hours, scientists say.

The [black hole](#) in the spinning duo is known as MAXI J1659-152 and is at least three times more massive than the sun. The star, meanwhile, is a red dwarf with a mass just one-fifth that of the sun and is just 620,000 miles (1 million kilometers) from the black hole, according to the European Space Agency, which announced the discovery on Tuesday (March 19).

"The companion star revolves around the common center of mass at a dizzying rate, almost 20 times faster than Earth orbits the sun," astronomer Erik Kuulkers, of ESA's European Space Astronomy Centre in Spain, said in a statement. "You really wouldn't like to be on such a merry-go-round in this galactic fair!"

The two objects orbit a common center of mass. Because the star is the lighter, it has a larger orbit and has to travel at a remarkable speed of 1.2 million mph (2 million km/h), making it the fastest moving star ever seen in an X-ray binary system. The black hole, meanwhile, orbits at about 93,000 mph (150,000 km/h), ESA officials said. The space agency created a [video animation of the black hole and ultra-fast star](#) to illustrate the odd setup.

Club Calendar:

Fiske Planetarium: Admission costs \$3.50 for kids and seniors and \$6 for adults closed for remodeling until fall

Internet Resources:

Revisiting the Cassini Mission

<http://saturn.jpl.nasa.gov/video/videodetails/?videoID=241> Prometheus cruises past the F ring...

<http://saturn.jpl.nasa.gov/multimedia/flash/Enceladus/enceladus.html> tour of Enceladus

<http://saturn.jpl.nasa.gov/multimedia/flash/Titan/index.html> tour of Titan

Spring observing video on the Astronomy magazine website, along with some others at:
<http://www.astronomy.com/intro>

This month's field trip:

Upcoming Space Missions:

Current Space Missions:

The GRAIL mission has come out with the most accurate gravitational map of the Moon, showing the interior structure. <http://www.jpl.nasa.gov/news/news.php?release=2012-385> for the pretty pictures. The two probes, nicely named Ebb and Flow, were crashed into the moon as their fuel ran out.

The WMAP mission has released its final map of the background radiation of the universe, correcting its age to 13.772 billion years after 9 years of collecting data. <http://map.gsfc.nasa.gov/> for that pretty picture.

This month's Wacky Idea:

http://science.nasa.gov/science-news/science-at-nasa/2013/14apr_ams/

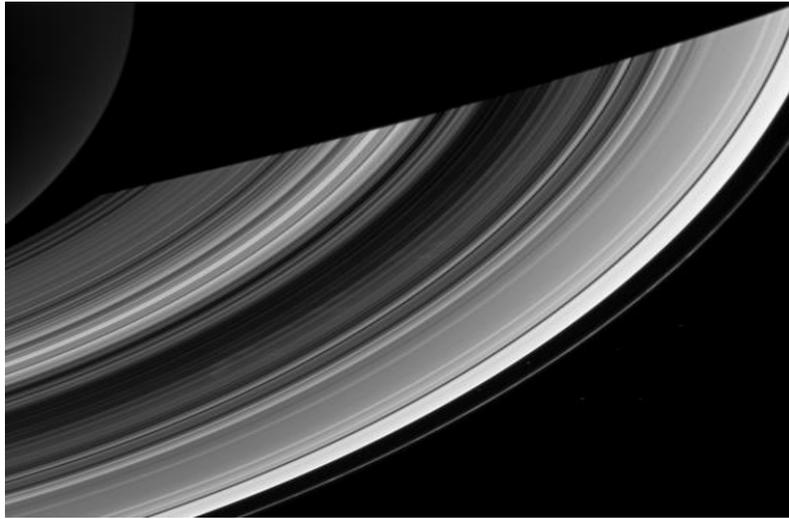
On April 3rd, researchers led by Nobel Laureate Samuel Ting of MIT announced that the Alpha Magnetic Spectrometer, a particle detector operating onboard the International Space Station since 2011, has counted more than 400,000 positrons, the antimatter equivalent of electrons. There's no danger of an explosion, but the discovery is sending shock waves through the scientific community. Could be a sign of neutralino collisions! Or maybe not!

Public notice:

A clean out of the basement ordered by my personal dictator has left me with a quantity (like 6 year's worth) of Astronomy and Sky & Telescope. Free for the taking at the meeting Thursday, leftovers into the recycle bin on the way home.

Books to come....

OK – the rejected cover pictures:



One from the Cassini mission – go see the rest!



Nice M13 from Gary Garzone, but the other one beat it out...