

Saturn Battle! By Lefty H, Gary G, Vern R  
**Longmont Astronomy Society Newsletter**  
**May 2012**

### **From the President:**

### **LAS Meeting - Thursday May 17th**

The May meeting of the Longmont Astronomical Society is this Thursday, May 17<sup>th</sup>, at the La Vita Bella Coffee House, 475 Main in downtown Longmont. The speaker this month is Dr. Suzanne Metlay who will give a presentation about how GPS satellites and missions like Gravity Probe B determine time very precisely.

Come early and join us for coffees, sandwiches, and pastries.

### **Upcoming Star Parties and Events**

- Star party for Legacy Elementary, 7701 Eagle Blvd in Frederick on Wednesday, May 23, 2012 - 8:30 pm. Scopes and volunteers are needed!
- City of Longmont Children and Teen Services star party at Thompson Park, 9 pm. Scopes and needed! Somewhere between 50 to 100 people expected to sign up.
- Venus transit on June 5 at 4 pm. We need to decide if we want to do a public event for this. Best location would probably be the parking lot for Sandstone Ranch south shelter.
- Boy Scout Camp on June 29th at Union Reservoir (small group, need someone to show them how to use scope, and

### **In the sky this month:**

Meteor Showers - slow summer until the Perseids in August.

### **Planets**

Mercury: rises 20 minutes before the Sun, so good luck there....

Venus: that would be the bright object in the west after sunset. Look now, it's sinking fast for the transit.

Mars: pretty much in the south at sunset.

Jupiter: seems to be on the other side of the Sun, wait a month or two.

Saturn: high in the east at sunset. Must be good seeing, look at all the pictures!

### **Interesting Stars/Galaxies**

Everyone got their eclipse glasses? Read the Fiske announcement below....

### **Club Calendar:**

**Fiske Planetarium:** Admission costs \$3.50 for kids and seniors and \$6 for adults. Join us on Sunday May 20th for our Annual Celebration of Astronomy Day. This year we have combined Astronomy Day with the Solar Eclipse. We will have activities at Fiske from 12pm-4pm on Sunday. Then we will be transitioning to our eclipse viewing from 5:45pm-8:15pm. We will be viewing the Eclipse from 3 locations; Fiske,

Sommers-Bausch Observatory and Folsom Field. Admission into the Stadium is FREE upon your purchase of eclipse glasses but seating in the stadium is on a "first come, first serve" basis. We encourage you to purchase these glasses ahead of time at Fiske Planetarium or McGuckin Hardware. You can also buy them the day of the event at Folsom. Glasses are \$2 each. You can also buy bundles of glasses by calling Fiske main office, 25 glasses for \$25 + \$10 shipping (*we will stop taking orders for shipments on Wednesday at 12pm MST*). There will be more details about specific activities and events for Astronomy Day and the Eclipse in the days to come. Stay tuned for more information or [click here](#).

### **Internet Resources:**

#### <http://hubblesite.org/blog/> Blogging the Universe

Does our galaxy contain around 100 billion planets? Did Hubble really take the first visible-light picture of one of them? What will the death of our Sun be like? What kind of data has the cosmos hidden in plain sight?

These and more intriguing questions are tackled weekly on HubbleSite's "[Speaking of Hubble](#)" blog, written by the scientists and researchers who spend their working hours immersed in the world of the telescope. Stop by for their take on the way astronomy affects their lives and ours.

Science and art intersect at "[A Curious Mind](#)," Dr. Mario Livio's blog at the Space Telescope Science Institute website. Dr. Livio is a Hubble scientist who brings an astronomical perspective to cultural questions.

### **This month's field trip:**

## **Windstorm damages observatory on Mount Evans**

Might not be fixable....

<http://www.mountevans.com/MountEvansCom/Mount-Evans-AreasDenverObservatory.HTML>

[http://www.denverpost.com/news/ci\\_20641406/windstorm-damages-observatory-mount-evans](http://www.denverpost.com/news/ci_20641406/windstorm-damages-observatory-mount-evans)

### **Upcoming Space Missions:**

#### ***AMATEUR ASTRONOMERS WILL TARGET ASTEROIDS!***

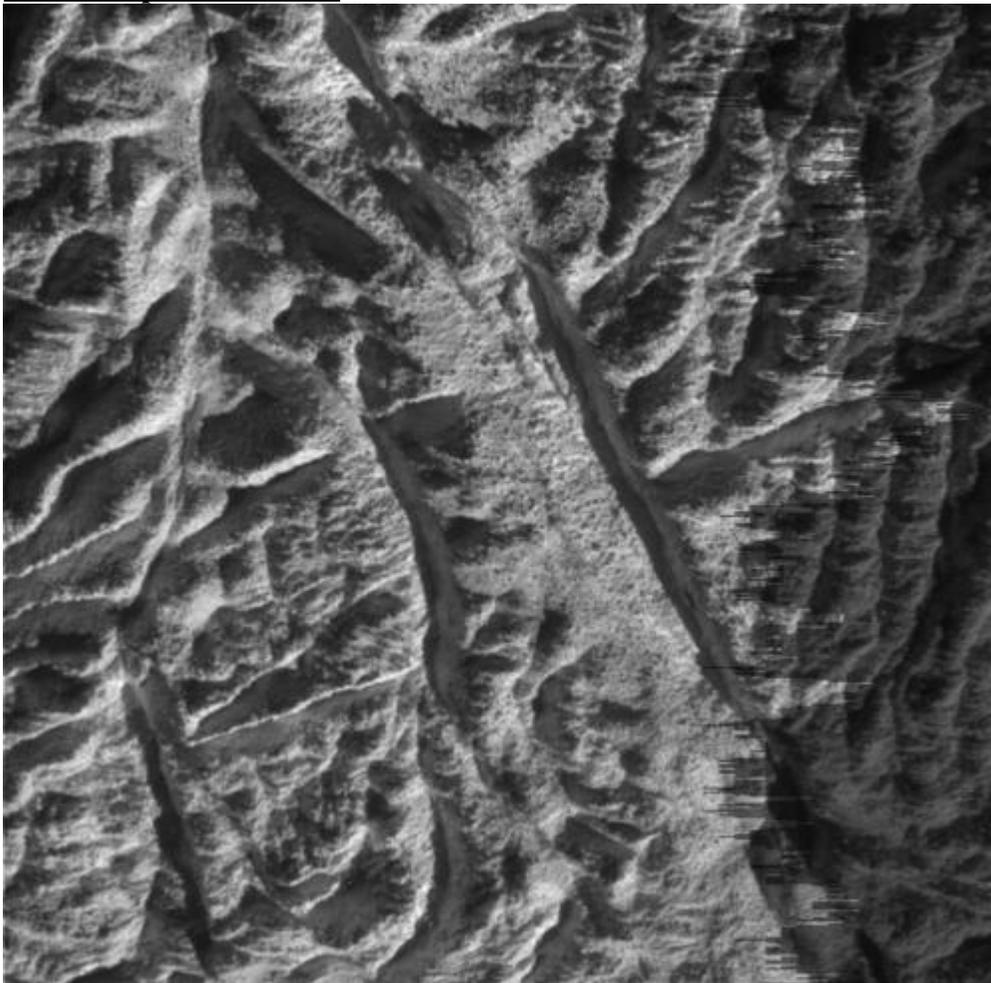
<http://osiris-rex.lpl.arizona.edu/> Amateur astronomers are about to make observations that will affect current and future space missions to asteroids.

Some will use custom-made, often automated, telescopes equipped with CCD cameras in their backyards. Others will use home computers to make remote observations with more powerful telescopes states or continents away. Many belong to leading national and international amateur astronomy organizations with members ranging from retirees to school kids.

Researchers on NASA's robotic asteroid sample return mission, OSIRIS-REx, are turning to amateur astronomers for new data on near-Earth asteroids in a citizen science observing campaign called Target Asteroids! The campaign starts in April 2012 and will last at least to the end of this decade.

The full name of the OSIRIS-REx mission is Origins Spectral Interpretation Resource Identification Security Regolith Explorer. The OSIRIS-REx spacecraft is to launch in 2016, reach a well-characterized primitive asteroid called (101955) 1999 RQ36 in 2019, examine that body up close during a 505-day rendezvous, then return at least 60 grams of it to Earth in 2023.

### **Current Space Missions:**



Quick – what's this? Yep - This unprocessed image was captured by NASA's Cassini spacecraft during its Nov. 21, 2009 flyby of Saturn's moon Enceladus. It shows the ridges and fractures on the surface of the icy moon.

### **This month's Wacky Idea:**

Since we're getting these nice solar events and the solar cycle is heating up, I thought it might be instructive to look at We're doomed, part 1:

[http://www.youtube.com/watch?v=yJwRCqifoA8&feature=player\\_embedded](http://www.youtube.com/watch?v=yJwRCqifoA8&feature=player_embedded) Video of coronal cells on the Sun. Sheeley and Warren found that coronal cells tend to appear between coronal holes — large regions of cooler, thinner gas — and “filament channels,” dark, narrow bands that mark the boundary between magnetic fields of different polarity. When matched against magnetic-field maps, the cells coincide with patches of magnetic field that are mostly pointing in one direction, either all up or all down. Coronal holes have “open” field lines extending far into space, but coronal cells must have “closed” field lines or we wouldn’t be able to see them, Sheeley says. The closed field lines reach far up into the corona before eventually bending over and touching down elsewhere on the Sun.

#### 1859: The Carrington Event

The Carrington Event of 1859 was the first documented event of a solar flare impacting Earth. The event occurred at 11:18 a.m. EDT on Sept. 1 and is named after Richard Carrington, the solar astronomer who witnessed the event through his private observatory telescope and sketched the sun's sunspots at the time. The flare was the largest documented solar storm in the last 500 years, NASA scientists have said.

According to NOAA, the [Carrington solar storm event](#) sparked major aurora displays that were visible as far south as the Caribbean. It also caused severe interruptions in global telegraph communications, even shocking some telegraph operators and sparking fires when discharges from the lines ignited telegraph paper, according to a NASA description.

[http://en.wikipedia.org/wiki/Solar\\_storm\\_of\\_1859](http://en.wikipedia.org/wiki/Solar_storm_of_1859)

<http://news.nationalgeographic.com/news/2011/03/110302-solar-flares-sun-storms-earth-danger-carrington-event-science/> The perils of a new large storm

<http://arstechnica.com/science/2012/05/1859s-great-auroral-stormthe-week-the-sun-touched-the-earth/> nice history stories

Download the magnetic-field records here (warning: 23 Meg...)

<http://www.geomag.bgs.ac.uk/documents/CarringtonforWWW.pdf>

#### **Humor Dept:**

We're doomed, part 2

**May 16, 2012:** Observations from NASA's Wide-field Infrared Survey Explorer (WISE) have led to the best assessment yet of our solar system's population of potentially hazardous asteroids. Also known as "PHAs," these asteroids have orbits that come within five million miles (about eight million kilometers) of Earth, and they are big enough to survive passing through Earth's atmosphere and cause damage on a regional, or greater, scale.

The asteroid-hunting portion of the WISE mission, called NEOWISE, sampled 107 PHAs to make predictions about the population as a whole. Findings indicate there are roughly

4,700 PHAs, plus or minus 1,500, with diameters larger than 330 feet (about 100 meters). So far, an estimated 20 to 30 percent of these objects have been found.

We're doomed, part 3

surviving when the Mayan calendar runs out.... <http://surviving-21st-december-2012.com/the-solar-flare-of-1859-carrington-event/> says a solar storm could be the trigger. Picture **EVERY** electronic device in the world dying.... Whatever happened to cow farts?