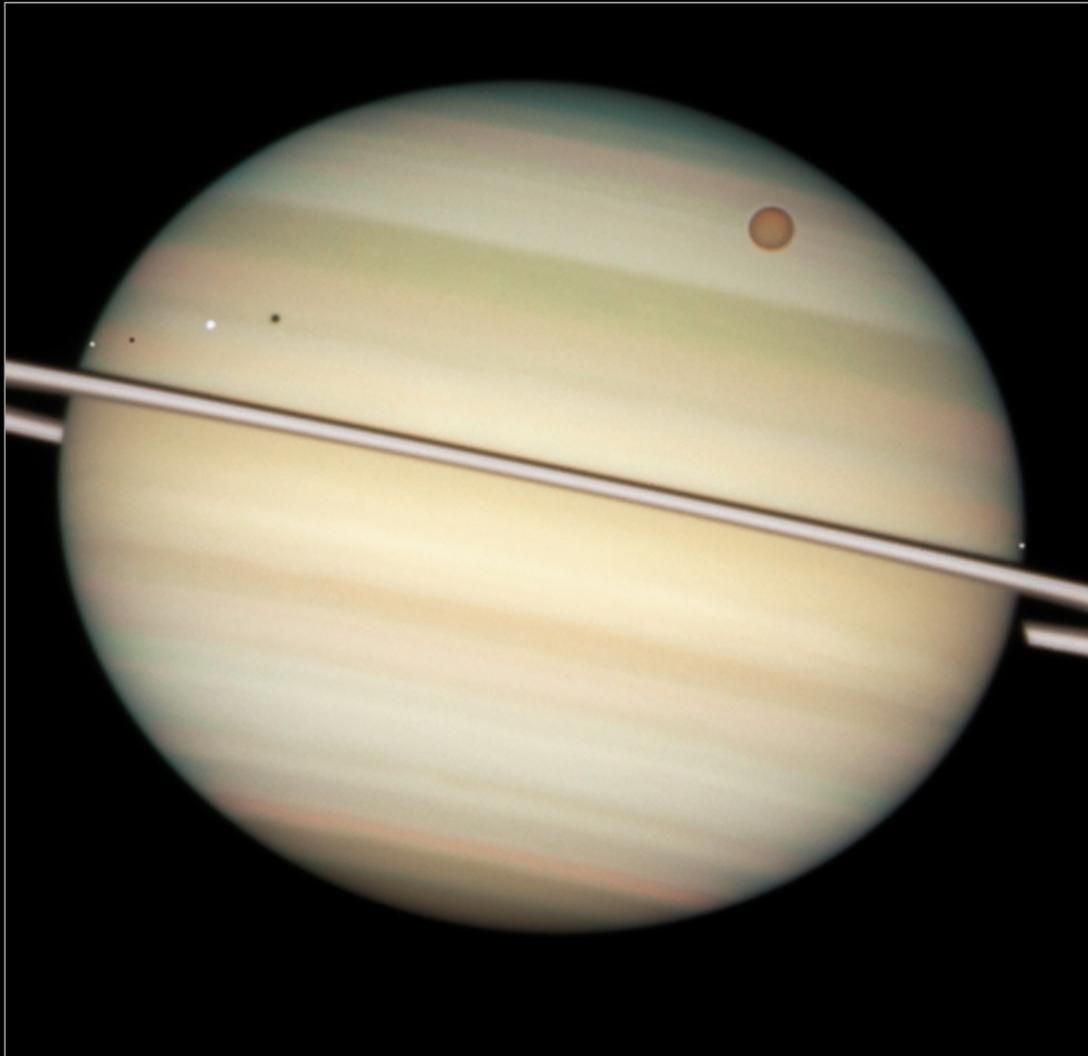


Saturn • February 24, 2009



Hubble
Heritage

NASA, ESA, and the Hubble Heritage Team (STScI/AURA) • HST WFPC2 • STScI-PRC09-12c

Quadruple Transit of Saturn
February 19, 2009 by the Hubble Space Telescope
Longmont Astronomy Society Newsletter
March 2009

From the President:

The next meeting is this Thursday, March 19. The speaker will be Dr. Bob Stencel from the University of Denver Department of Physics and Astronomy. He will give a presentation about International Year of Astronomy activities and the peculiar variable Epsilon Auriga. On the schedule for next month at the April 16th meeting is Dr. Sean Raymond from University of Colorado Center for Astrophysics and Space Astronomy.

Scopes and volunteers are needed this Friday, March 20, for the Skyline High School star party at Sand Stone Ranch. The Sandstone Ranch is located south of 119, just west of the car dealership. Follow the road southeast of the ball fields, up a small bluff to the parking area by the duck pond and shelters.

We need to start planning some activities in celebration of the International Year of Astronomy. Suggestion, thoughts, etc are welcome as always.

In the sky this month:

Shuttle is at the ISS. I was able to see the ISS on Monday evening, but the shuttle was lost in the plentiful haze. Here's the rest of the schedule for the mission.(MDT)

Docking with ISS	3/17	3:12 PM	
Spacewalk #1	3/19	11:38 AM	Install new solar panel array,duration 6 hrs
Spacewalk #2	3/21	10:43 AM	Battery and Antenna moves, duration 6 hrs
Spacewalk #3	3/23	9:23 AM	CETA relocation, lubrication; duration 6.5 hrs
Undocking	3/25	7:47 AM	flies around ISS for inspection, separates
beginning at 9:30 AM			
Deorbit burn	3/29	10:39 AM	
Landing at KSC	3/29	11:42 AM	

Notes: anytime between the Undocking at Deorbit burn, you should be able to see both of them in roughly the same orbit, ISS first – see Vern's weekly schedule.

All of the action can be watched live on the NASA channel on cable/dish, or on the web at <http://www.nasa.gov/multimedia/nasatv/index.html>

Now that the S6 truss is installed, the ISS should be brighter.

Meteor Showers

Bunch of minor showers in March and the first half of April, you can check <http://www.meteorshowersonline.com/calendar.html> for the exact details. Next major shower is the Lyrids (LYR), April 16-25, with the maximum on Apr. 22. (about 10/hour)

Comet Lulin is in Gemini, fading fast at magnitude 6-7.

Planets

Mercury – superior conjunction on March 31, then great viewing the second half of April.
Venus- In mid-March, Venus started to plunge toward the sunset horizon, appearing more than 1° lower on each successive evening. For telescopic observers, this is the most exciting possible time to view Venus. It'll be back in August as a morning star.

Mars – still faintly visible, but improving all summer
Jupiter – rises before dawn, but still low in the sky.
Saturn – high in the south at dusk. Rings very edge on (see the first page photo)

Interesting Stars/Galaxies

Hubble has a winner

Out of a total of 139,944 votes cast online by the public since the "Hubble, You Decide" contest opened January 28, nearly 50 percent favored the interacting pair of spiral galaxies called Arp 274 (from the Arp Atlas of Peculiar Galaxies) over five other celestial candidates. The picture will be taken and released to the public during the "100 hours of Astronomy" the first weekend of April. Wait for it....

Club Calendar:

Equinox at 5:44 MDT on March 20.
Star Party: March 20 at Sandstone Ranch for Skyline High School.
Next meeting: April 16th.

Other Clubs: Plan your summer vacation under the stars

ALCON national expo in New York City from August 2-8. Details at alcon2009.org)

All-Arizona Messier Marathon March 28-29 at Arizona City, AZ

www.saguaroastro.org/content/messier2009.htm

Grand Canyon Star Party north of Flagstaff on June 13-20.

www.tucsonastronomy.org/gcsp.html

Bryce Canyon Astronomy Fest in Cedar City, UT June 17-20.

Rocky Mountain Star Stare in Colorado Springs June 17-21. www.rmss.org

Nebraska Star Party in Valentine, NE July 19-24 www.nebraskastarparty.org

Fiske Planetarium:

7:30pm Thursday March 19: Colorado Skies "Spring Skies" with Justin Searles

7:30pm Friday March 20: "Mars Revealed" Explore new discoveries and mysteries of the Red Planet

April 2 & 3: Giant Jupiter: with Dr. Fran Bagenal

April 9: Colorado Skies: "The Nature of Science" with Matt Benjamin

April 11: ASTRONOMY DAY AND YURI'S NIGHT

April 14: BASS's Forum Astronomique

April 16: Colorado Skies: "Hubble Telescope Update" with Justin Searles

Internet Resources:

Those amateur astronomers who bit on Galaxy Zoo and classified a few galaxies for scientists, Galaxy Zoo 2 is here. The first version had 1 million galaxies, 150,000 volunteers with 80 million classifications, and one new discovery by an amateur, who got it named after her! (which scientists dubbed "Hanny's Voorwerp" Off to <https://www.galaxyzoo.org/> to do a few for the cause! Some of the data from the first version is beginning to show up in papers. Howsabout getting a speaker to explain it all to us?

Once again the Globe at Night is going on, from March 16-28. Check out the directions at <http://www.globe.gov/GaN/> and get a friend, neighbor, or grandchild out to count the stars. The last night features Earth Hour www.earthhour.org where the entire Earth participates – turn off all your outside lights from 8:30 until 9:30, and let's see the skies like they should be once again.

Not a bad viewing: try [gigapan.org](http://www.gigapan.org) for zoomable, panable pictures. The one taken right after the Spirit landed on Mars is a good example at <http://www.gigapan.org/viewGigapan.php?id=15289>

Upcoming Space Missions:

NASA's Kepler spacecraft is about to begin an unprecedented journey that could answer these ancient questions.

Kepler is scheduled to blast into space from Cape Canaveral Air Force Station, Fla., aboard a Delta II rocket on March 5 at 10:48 p.m. EST. It is the first mission with the ability to find planets like Earth -- rocky planets that orbit sun-like stars in a warm zone where liquid water could be maintained on the surface.

The mission will spend three and a half years surveying more than 100,000 sun-like stars in the Cygnus-Lyra region of our Milky Way galaxy. It is expected to find hundreds of planets the size of Earth and larger orbiting at various distances from their stars. If Earth-size planets are common in the habitable zone (where conditions favor liquid water), Kepler could find dozens of worlds like ours. On the other hand, if those planets are rare, Kepler might find none.

The Kepler telescope is specially designed to detect the periodic dimming of stars caused by transiting planets. Some star systems are oriented in such a way that their planets cross in front of their stars, as seen from our Earthly point of view. As the planets transit, they cause their stars' light to slightly dim, or wink: [1 MB video](#). The telescope can register changes in brightness of only 20 parts per million.

"If Kepler were to look down at a small town on Earth at night from space, it would be able to detect the dimming of a porch light as somebody passed in front," said James Fanson, Kepler project manager at NASA's Jet Propulsion Laboratory in Pasadena, Calif.

To accomplish this feat, Kepler will use the largest camera ever launched into space, a 95-megapixel array of charged couple devices or "CCDs." (At this point, Gary writes a note "find out where I can buy one")

Late news: Kepler is up successfully, being checked out for functions. I checked on the website <http://kepler.nasa.gov/> for the time of "first light", but no luck. The detection of an Earth-like planet takes 3 years. First you have to see the light output dim slightly, then dim a "pretty much the same amount" a year later, then dim once again to verify it (it could have been a larger planet at a greater distance, thus covering the same amount of the star's surface). In order for this to work, the planetary orbit must line up with the Earth, so it doesn't always work. Good thing we have 100,000 stars to observe!

WASHINGTON – The crew of the international space station survived a close call with space junk Thursday, March 12th.

The three crew members took refuge for 11 minutes in the Soyuz escape capsule and then were told to go back into the space station. Officials were worried about a possible collision with a piece of space junk.

The debris was about one-third of an inch in width, said NASA spokesman Josh Byerly.

This month's Wacky Idea:

NASA is asking the public to help name the International Space Station's next module - a control tower for robotics in space and the world's ultimate observation deck.

Eight refrigerator-sized racks in the Node 3 module will provide room for many of the station's life support systems. Attached to the node is the cupola, a one-of-a-kind work station with six windows around the sides and one on top. The cupola will offer astronauts a spectacular view of their home planet and their home in space. In addition to providing a perfect location to observe and photograph Earth, the cupola also will contain a robotics workstation from which astronauts will be able to control the station's 57-foot robotic arm.

Individuals can vote for the module's name online, choosing one of four NASA suggestions -- Earthrise, Legacy, Serenity or Venture -- or writing in a name. Submissions will be accepted Feb. 19 through March 20. The name should reflect the spirit of exploration and cooperation embodied by the space station and follow in the tradition set by Node 1, named "Unity," and Node 2, named "Harmony."

The winning name will be announced at the Node 3 unveiling April 28 at NASA's Kennedy Space Center in Florida. The node is scheduled to arrive at Kennedy April 20 and is targeted for launch in late 2009.

For more information, to submit a name and to view pictures of the node and cupola, visit:

<http://www.nasa.gov/namenode3>

For additional information about the International Space Station, visit:

<http://www.nasa.gov/station>

Might I suggest "the Birch node"?

Humor Dept:

Those amateur astronomers tired of lugging the big iron around to those dark sites – the March Reflector did carry directions for making a telescope “just like Galileo's”. Parts are easily available, and free PVC if you've got access to a plumber's truck at the construction site next door....

Just imagine the jealousy when the rest of the members, after spending 30 minutes pulling their scope pieces across the field, assembling the scope, returning 3 times to their car for forgotten parts, coffee, favorite hat, etc.... then they have to watch you just reach in your pocket and pull out the authentic Galileo model 1. Plus you can paint it in your favorite color. I recommend glow in the dark orange, so when they hide it in the grass, you can find it again. There are no directions for mounting a camera on the Galileo scope, but I think a point and shoot disposable from Walgreen's would probably work, and should turn out pictures of equal quality with a lot less time!

And now, a few pics from the files....



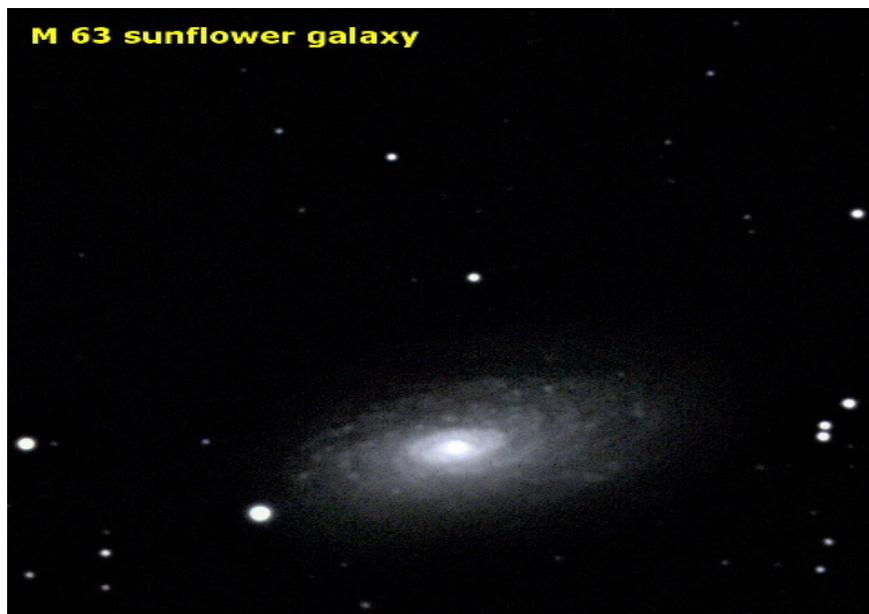
Comet Lulin by Brian



Rosette Nebula by Brian



M3 by Gary



M63 by Gary