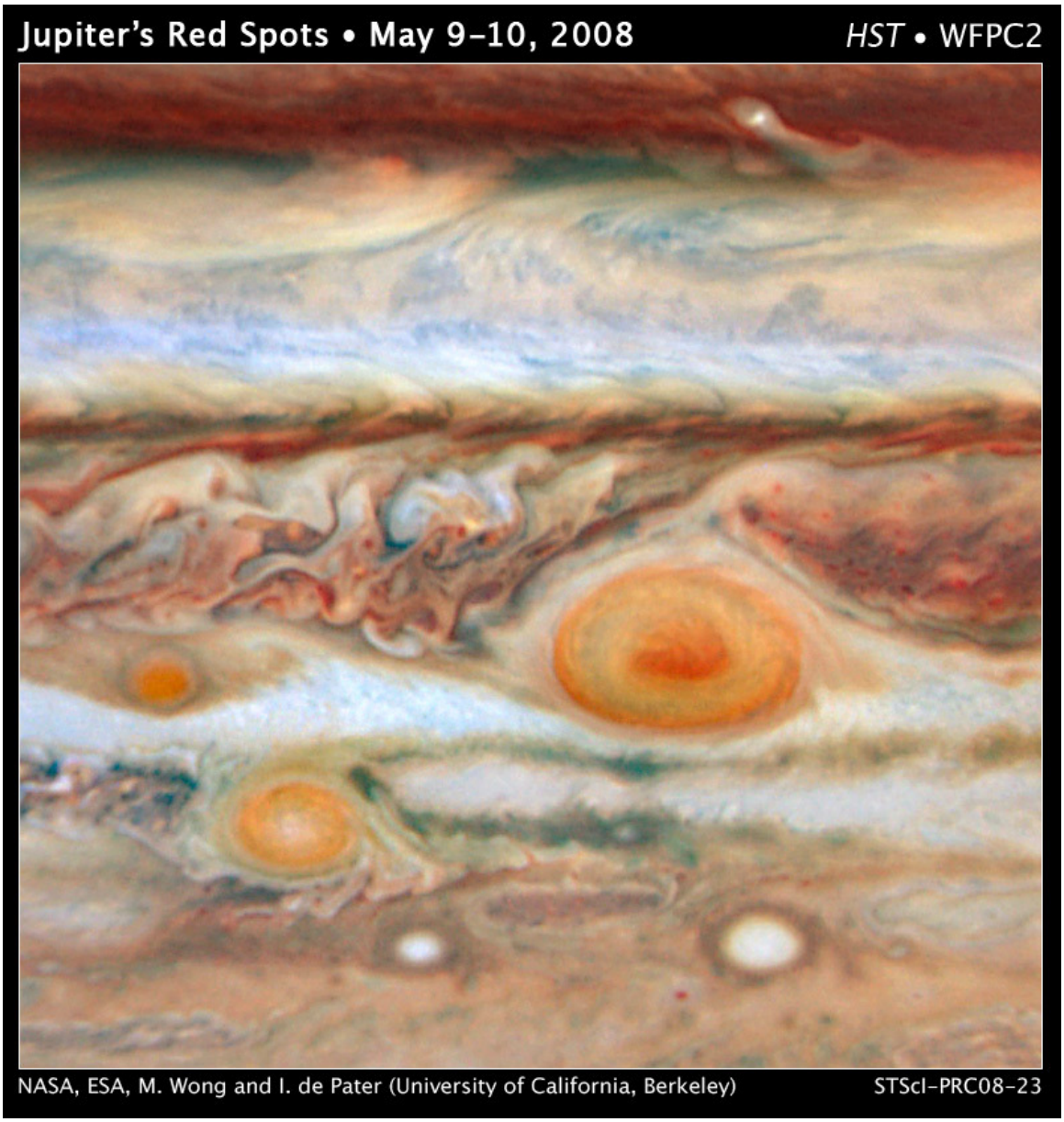

Red Spot, Junior Red Spot, Baby Red Spot
Longmont Astronomy Society Newsletter
June 2008

From the President:

Our next meeting is this Thursday, June 19, at 7 pm. The speaker will be Dr. Emily Haynes who will discuss the Phoenix spacecraft which landed just over 3 weeks ago in the polar region of Mars. Emily will talk about the mission and the science experiments - what we have to gain by studying the planet's climate, seasonal variation, what happened to the water, ability of the planet to have supported life, etc. In a few weeks Dr. Haynes will be at the Phoenix Science Operation Center in Tucson, Arizona as the investigation of the polar regions of Mars begins.

The LAS execs will meet next week to plan an "imaging clinic" possibly next month and a club barbeque or maybe potluck in August or September. If you have comments or suggestions, please get in touch with one of the LAS execs. Their emails are on the website under the "Officer's and Online Members" link.

Summer begins this Friday. That must mean the fabulous views of the Veil Nebula under the dark skies at Fox Park are close at hand! It is time to shake out the sleeping bag and clear the spider webs from the old scope. The summertime sky has some great deep sky objects to explore.

Editor's note: Probably including this picture of ice (?) in a trench dug by the lander

News from Julie:
The University of Colorado at Boulder has been awarded a five-year, $32 million contract from NASA to manage and operate a sophisticated data system charting global phenomena like sea ice, ice shelves, ice sheets, glaciers and snow cover.
Researchers at NSIDC use the DAAC data to study ongoing declines in sea ice, glaciers and ice caps, including events like record extent lows of Arctic sea ice and ice-shelf breakups. When Antarctica's Wilkins Ice Shelf began to rapidly disintegrate in March 2008, NSIDC scientists first spotted the events using DAAC satellite data. For more information on NSIDC visit the Web at http://nsidc.org
Note to Vern: let's maybe line up one of these researchers for a talk, maybe?

In the sky this month:
Meteor Showers: Hey, it's June and July, too warm for meteors! Wait for the Perseids on the morning of Aug 12, with moonset at 2 A.M. The Delta Aquarids are halfway decent the end of July (peak the 27th)

Planets:
Mercury: fine morning show for the first half of July, with the greatest angle of 22 degrees on July 1st.

Venus: Starting to come from behind the Sun, Venus sets a bare half hour after the Sun on July 1st, so its pretty far down in the big bumpy things to the west. By the end of July, that's 50 minutes and decent viewing.

Mars: visible low in the west in the constellation Leo, and is about 23 degrees above the horizon around 9:30 pm. It is 191 million miles (2.05 au) away and magnitude +1.6 in brightness and the semi-diameter is 4.6 arc sec.

Saturn: about 9 degrees above and to the left of Mars in the constellation Leo. It is magnitude +1.2 in brightness and the semi-diameter is 17 arc sec.

Jupiter: rises at 9:40 pm by the weekend and is highly visible at -2.5 magnitude in brightness and a semi-diameter of 47 arc sec.

Comet Boattini: Serious comet chasers — people who track faint comets with telescopes and binoculars — have been aware of Comet C/2007 W1 (Boattini) for quite a while. It was forecast to become quite bright for a telescopic comet, 6th or perhaps even 5th magnitude, making it visible without optical aid to skilled observers at dark sites. Currently, it's a 5, but only visible in the Southern Hemisphere.

The comet passes directly south of the Sun in mid-June, making it invisible to anybody north of Antarctica.

Boattini will emerge from the Sun's glow around the beginning of July as an early-

morning object, low in the east, for observers in both the Northern and Southern Hemispheres. What it will look like then is anybody's guess. Most likely, it will be a pleasant though unspectacular little binocular target. There's a small but significant chance that it will become brighter than any comet since Holmes's spectacular outburst late last year. Hope….

In the news: the IAU has decided on "Plutoids" for the name of any gravitationally bound (spherical, more or less) object beyond the orbit of Neptune. Official press release at http://www.iau.org/public_press/news/release/iau0804/ and now let the arguments begin. Currently, there are only 2 plutoids, Pluto and Eris. Look for more to come.

It was not enough to satisfy leading Pluto-as-a-planet advocate Alan Stern, a former NASA space sciences chief and principal investigator on a mission to Pluto. Stern said a rival group could be formed to the IAU, which he said was too secretive in its decision-making. "It's just some people in a smoke-filled room who dreamed it up," Stern said. "Plutoids or hemorrhoids, whatever they call it. This is irrelevant."

"It's going in the right direction," laughed Ralph McNutt, a planetary scientist at Johns Hopkins University. "I'd still rather have it just be known as a planet. I grew up with nine planets, I'm sorry," McNutt said.

In a related story, the Pluto-bound New Horizons mission has crossed the orbit of Saturn. Just a few more years (2015) until the pictures start rolling in….

Astronomy Class:

This month is on asterisms (you know, like the Coathanger and the Big Dipper) Check out the Saguaro Astronomy Club's website at www.saguaroastro.org for 110 of them. I couldn't find that list in the 10 minutes I devoted to looking, but their website is really good, and their lists of "Objects to Observe" is worthy of an extensive look. It looks like they had about 30 astronomers doing the Messier Marathon, for instance. And they go to the North Rim of the Grand Canyon to observe (it's definitely dark around there).

Club Calendar:

June:

20-21 Jupiter teams up with the waning gibbous Moon in the morning sky

The20 Summer solstice occurs at 5:59 p.m. MDT. This is the longest day of the year in the northern hemisphere and marks the Sun's northernmost point in the sky.This has not occurred on June 20th since 1896. Usually the solstice is on June 21st or 22nd. "Early" solstices will happen more frequently for the next two hundred years due to the leap year correction cycle of our Gregorian calendar. A "leap day" is periodically inserted to the Gregorian calendar at the end of February to keep Easter Sunday within a couple weeks of the spring solstice. Since the year is 365.25 (about) days long, the solstice is about 6 hours later each year until 2012, when the leap year will bring it back to June 20.

24 Saturn, Regulus, and Mars (from left to right) form a tight, equally spaced line in the west. Mars will move closer to Regulus over the next few evenings.

30 Mars will pass within about one degree of Regulus, the brightest star of Leo. Mars, which is the brighter of the two, is to the right. Saturn is just above them

July:

2 Now's your chance to see the moons of Jupiter move – in the early morning Europa,Io, and Callisto are all aligned, so any movement is easily viewed in a few minutes.

4 Earth is at aphelion (94.5 million miles) from the Sun

6 Moon passes 3 degrees south of Mars, 3 degrees south of Saturn

9 Jupiter at opposition

11 Mars passes 0.7 degrees south of Saturn at 2 A.M.

17 regular club meeting at FRCC

Fiske Planetarium:

8:00pm Tuesday, June 24 -- "Las Estrellas del Verano": live talk in SPANISH with Tito Salas. En Espanol: El verano es la estacion perfecta para observar el cielo de Colorado. Ven y descubre que constelaciones, estrellas y planetas podremos observar durante esta estacion. Mitologia griega e historias de nuestros pueblos se reunen en esta charla.

8:00pm Friday, June 27 -- "CASSINI mission update": live talk with Dr. John Weiss -- Enjoy lively discussion and lovely images of the latest discoveries around the ringed planet with a member of the Cassini Imaging Team (CICLOPS).

8:00 P.M. July 18:
Messier Marathon: 110 Deep Sky Objects in One Night by Steve Hartung (BASS)
In the 1700's, French astronomer Charles Messier created one of the first catalogs of deep sky objects, including star clusters and some of the most beautiful nebulae and galaxies visible from the northern hemisphere. On a few evenings each spring, it is possible for a dedicated amateur astronomer to see all of them in one night with a modest telescope. Here you will see them all in one hour in an accelerated sunset to sunrise program.

July 22:
Nuestro Sistema Solar by Tito Salas (Fiske Planetarium)
Ven y descubre lo nuevo que nuestro sistema solar nos ofrece. ¿Porqué Plutón no es considerado un planeta? Ahora con nuevas imágenes de los planetas y sus lunas.

Ask for an "Adult Free" coupon at Fiske's ticket window! Anyone under age 18 with paid admission qualifies to bring an adult to Fiske at no cost! You are welcome to photocopy and use these coupons until August 8, 2008

Other Clubs and Star Parties:
THE NEBRASKA STAR PARTY INVITES YOU TO
NSP 15 July 27th THROUGH August 1st, 2008
SNAKE CAMPGROUND, MERRITT RESERVOIR,
27 MILES SOUTH OF VALENTINE, NEBRASKA
http://www.nebraskastarparty.org/

Heart of America Star Party

June 26 - July 5, 2008
Near Butler, MO.
Registration, pictures from last year's event and 5 page article in Amateur Astronomy magazi Rocky Mountain Star Stare - July 2 thru July 6 near Lake George, CO

For over two decades, astronomers from across the U.S. and around the world have been gathering each summer in the mountains west of Colorado Springs. What draws them here each year? Dark skies. Not just dark skies, but dark skies with amazing transparency. These gazers of the stars are enjoying Rocky Mountain Star Stare!

Contact info: Alan Gorski (chairman -at- csastro -dot- org)
Website: http://www.rmss.org

For news highlighting our 2007 event . See http://www.hoasp.org/

Great Basin National Park Events

Great Basin National Park will host the following 2008 free public star parties: June 7 - Astronomy Day. Solar viewing, kids hands-on projects, presentation on latest astronomical news. July 4 & 5 - Presentation on digital astrophotography. August 9 & 10 - Presentation on meteors followed by late-night meteor watch. August 30 & 31 - Star parties only. September 1 - Solar viewing from 10 a.m. to 1 p.m. Visitors Center. Presentations start at 7 p.m. in the Great Basin Resource Center, next door to the Visitors Center. Star parties start at 9:30 p.m. behind Visitors Center, weather permitting. For more information on Great Basin NP go to: http://www.nps.gov/grba, or call: (775)-234-7331. Ask for Ranger Moore. If you would like to bring a telescope and participate or give a presentation, contact Salt Lake Astronomical Society member Tom Sevcik, (801)-262-6557, or send email to: sfv1ts@hotmail.com.

AlCon 2008 July 17 - 19 Des Moines, IA

More info coming soon!

Website: http://www.alconexpo.com

Internet Resources:

Moon gets hit by meteors! (Boy, now that's a surprise….) NASA has been filming the impacts – you can watch a video, see the map, etc at: http://science.nasa.gov/headlines/y2008/21may_100explosions.htm?list937934 As predicted and logical, the "leading edge" of the Moon has the most impacts.

Big news on May 23 was the release of a paper about supernova 2008D. The Swift Telescope was observing a supernova in NGC 2770, when a new one cooked off in another part of the same galaxy. This meant that the data set contains the first onset for a change. Quick notification of optical and other telescopes around the world meant that the observations quickly focused on all the other parts of the spectrum. One of the better writeups, with links, is at the Sky and Telescope website. http://www.skyandtelescope.com/community/skyblog/newsblog/19103349.html

And a new red spot has appeared on Jupiter – images and more info is at http://hubblesite.org/newscenter/archive/releases/2008/23/ Or just check out the picture on the first page of newsletter.

Milky way gets mapped (again). Learn about the history of mapping our locale at http://www.astronomy.com/asy/default.aspx?c=a&id=7039 The picture of it looks a lot better. Question: where are those "swallowed mini-galaxies" we always keep hearing about?

And for the daytime observers, check out the video at http://www.thesuninmotion.com/ They're billing it as "IMAX style". I don't know about that, but the views are nice.

And a plug for the Astronomy magazine podcast for this month – touring the sky with binoculars. Plug it into the IPOD, find a nice dark sky place to lay your air mattress, and give it a whirl.

One of your better writeups on the Moon Illusion (you know, where the full Moon near the horizon is REAL BIG….) is at http://science.nasa.gov/headlines/y2008/16jun_moonillusion.htm?list937934 So step outside on Wednesday June 18 at 8:12 and look at it in real time

Space Missions:

The Phoenix has landed (at 5:53 MDT on May 25)! Check out the images from the North Pole of Mars and the latest data from the lander at http://phoenix.lpl.arizona.edu/ The first pictures show the region consists mostly of small rocks/dirt, with a little variation in altitude. The mission is being run by JPL and the University of Arizona. Now to dig around looking for stray carbon molecules from life on Mars. Anybody else old enough to remember the Viking landers? And the "we've discovered evidence of life!"…. For the computer literate, you can download the "weather widget" on that page, and soon will have the Mars weather displayed on your screen. Warning: it's going to be very, very boring – try to remember how to erase that program.

The Discovery is back from installing the Japanese laboratory on the ISS – the brightness keeps climbing as more modules are added.

Your tax dollars at work: GLIMPSE (Galactic Legacy Infrared Midplane Extraordinaire) is a survey of the inner part of the Milky Way Galaxy in which we reside. The images come from the IRAC instrument on board the Spitzer Space Telescope, one of NASA's four "Great Observatories". The telescope was pointed to 111,000 different positions in the sky and snapshots were taken in four different infrared wavelengths, creating a total of 444,000 images. The MIPSGAL survey followed up using the MIPS instrument with another 400,000 images at three longer infrared wavelengths. These surveys have 100 times the sensitivity and over 10 times the resolution of previous surveys, allowing us to see stars and dusty objects throughout most of the Galaxy for the first time. From all this data two images have been created that you can explore: the IRAC image, and the IRAC/MIPS image. If printed, each would be about 180 feet long. Go look at the pretty pictures at http://www.alienearths.org/glimpse/ You can watch the video explaining what you're seeing at http://www.astronomy.com/asy/default.aspx?c=a&id=7004 (down at the bottom)

The GLAST mission successfully launched on 6/11 to view the Universe in gamma rays. Being more sensitive, it surveys the entire sky in and hour and a half – the Compton Observatory (which GLAST is replacing) took 15 months to do the same job! Story at http://science.nasa.gov/headlines/y2008/11jun_glast2.htm?list937934 Look for a batch of new discoveries to start pouring in about these most interesting explosions. Since gamma rays can have energies in the giga volt range, they really are smoking! (Giga of anything is big….) Most of the explosions happened in the early Universe at distances of billions of light years, and each explosion generally emits energies as great as the entire Universe (but only for a VERY brief time). Once it's detected, all the other telescopes can take a look. Mission home page is at http://www.nasa.gov/mission_pages/GLAST/main/index.html and first light should be in a week or two. A reminder that gamma ray exposure turned Bruce Banner into the Incredible Hulk, so you don't want to get too close to these, unless you need some shortcut help in the "beefing up" department.

Next Mission: The Ocean Surface Topography Mission on the Jason-2 satellite (OSTM/Jason-2) about June 20. Measuring the height of the ocean to 2.5 cm is a good trick, isn't it? Rumor has it that you can see the 'wake' of submerged nuclear subs traveling across the ocean, but that's probably a secret or something. http://sealevel.jpl.nasa.gov/mission/ostm.html for that mission page, and you're not going to get much data or information there….

This month's Wacky Idea:

Just when you thought it was safe to go near a supernova, comes the theories surrounding the formation of a quark star, as a neutron star explodes as a super-luminous supernova. Read the details at http://www.astronomy.com/asy/default.aspx?c=a&id=7037 Gotta love it! Nothing like a big boom!

This month's weird science contest: OK, who can name the 6 quarks from memory…..
And the names of the properties of quarks?