

Longmont Astronomical Society

August 2004



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The View From Up Here

Dear members and friends,

You should have received a mailing this week about several fun and important events coming up for the LAS! To make sure everyone remains informed, here is a recap of what's coming up.

August LAS meeting – Thursday, August 19th, 2004 7:00 pm

For our August meeting, we will be at Fiske Planetarium on the CU Boulder Campus. It's been a long time since the LAS had a field trip to Fiske, and we are looking forward to renewing our association with them. Our speaker will be Dr. Erica Ellingson, who will give a talk on dark matter. Please park in lot 308.

Star Party, Sunday, August 22nd, at the home of LAS member Mike Fellows.

Mike won the Star Party Raffle from Astronomy Day, and will be hosting it at his home on behalf of Boulder County Partners, an organization that helps youth. We are looking for as many members and scopes to help out as we can – please try to attend if you can. Mike's address is: 4500 Mulberry Ct., Boulder. Contact Mike at mhfellows@msn.com if you need more info.

We will be holding another Tri-Town Star Party in Frederick at Milavec Lake on September 4th at dusk. For those of you looking for a fun local star party, this is it! The site will be towards the north end of the lake, between the lake and the golf course. Club members bringing scopes may use the lake access road to take their scopes to the site. This is part of our continuing public outreach effort, and is important as there is growing interest in astronomy in the Tri-Town area. Special thanks to Michelle Lavers, who worked with the appropriate town officials to make this happen. If you have questions, you may reach her at mmiishaa@hotmail.com. Directions: From I-25, take either Hwy 119 or Hwy 52 east to Road 13. Milavec Lake is between Roads 18 and 20.

Our New Moon star party for September will be on Saturday the 11th. Emily Haynes and her family will be graciously hosting the party at their dark sky site at Caribou above Nederland. This is a great area for observing! Thanks to Emily and Mark; please see the map on the LAS website.

Finally, as most of you are aware, we have a new meeting place at Front Range Community College – Boulder County Campus in Longmont. Our 1st meeting will be Thursday, September 16th at 7:00 PM. We will meet in the Community Room. FRCC is located at 2121 Miller Drive off of Pike Road on the south end of town south of the mall and 119. Our 1st speaker at this new facility will be our very own Stephanie Fawcett!

What a great variety of events to wind up the summer season – I hope you will be able to take advantage of as many of these as possible!

Clear skies,

Bob Spohn
President

Note: The front-cover picture is M31 is 60 minutes in each color through the Tak Sky90 by Brian Kimball.

Calendar

August	Meeting 1st Quarter Party Star party raffle	19th at Fiske Planetarium 21st – Public Observing at Flanders Park at dusk 22 nd - Mike Fellows
September	Tri Town Star Party Summit County New Moon Party Meeting 1st Quarter Party	4 th – Tri Town Star Party (see below for more details) 10 th – Summit County Star Party (see below for details) 11th – Caribou 16th at FRCC 18th – Public Observing at Flanders Park at dusk
October	Meeting New Moon Party 1st Quarter Party	21st at FRCC 9th – New Moon Party at Pawnee 16th – Public Observing at Flanders Park at dusk
November	Meeting New Moon Party 1st Quarter Party	18th at FRCC 13th – New Moon Party at Pawnee 20th – Public Observing at Flanders Park at dusk
December	Meeting New Moon Party 1st Quarter Party	16th at Fiske Planetarium 11th – New Moon Party at Pawnee 18th – Public Observing at Flanders Park at dusk
Jan 2005	Banquet	15th – Wayside Inn

July meeting notes

The meeting was called to order by Bob Spohn, President.
Minutes were recorded by Mark Propp, secretary
Visitors were introduced.

Treasurer's report, by Monica Martens: Monica reviewed account balances, and announced generous anonymous \$400 donation.

Secretary's report, by Mark Propp: Web site and mail server running smoothly. Two users with mesanetworks as ISP (same as server) are currently having problems accessing web site.

Newsletter editor's report, by Philippe Bridenne: Philippe demonstrated solar filter material and binoculars used for Venus transit observations. Philippe apologized for incorrect attribution in previous newsletter. He also demonstrated a simple visual demonstration of Venus transit, explaining why we only get 2 transits every cycle: due to intersection of orbital planes.

Fundraising and Publicity report, by Ray Warren: We have remaining David Levy tapes for distribution. Good editing and photography.
Regarding raffle tickets, Ray compared the revenue from members and non-members, about half and half --- consider this a success! Thanks to the ticker sellers!

Terry Frazier demonstrated a desktop, flip-page, tear-off type calendar. The cost is \$5.98, and we could sell for \$11 or \$12. We can combine orders. A motion was made to purchase some for fundraising, motion unanimously accepted, estimated dozen calendars needed.

President's report by Bob Spohn:

Mike Hotka submitted for the Herschel 400 observing certificate!

The double-star observing certificate, submitted for Bob Spohn next week!

Bob described the Astronomical League observing programs: Verified observations, you receive nice certificate and enameled pin. It really helps at star parties, recognizing stuff, finding way around. It is a great accomplishment and feeling, and already paid for as part of dues! See him at break for more info. Mike Hotka mentioned also the urban observer program, very cool but not necessarily for beginners. Star puppy program for 12 and under. The Messier program is a good place to start. New club for Astronomical League: Globular Cluster program, to be approved by Astronomical League next Wednesday. Observe 50 objects, sponsored by our club! LAS created logo, brochure, and web content. Not just observation, must assigned Herschel classification number 1-22.

Next month meeting will be at Fiske Planetarium. Julie described program, to be presented by Erica Ellington. Topic: "Dark Matter and Deep Space".

Awesome presentation! Map on LAS newsletter. LAS can use the planetarium. Laser died, so no music shows at the moment. A snail mail will be sent to members to announce, web site, and newsletter. Meeting is at 7 pm.

Last year LAS worked with Gilpin school district to fix a 6" refractor that had been donated long ago. Gilpin made inquiries for help to Denver club, but received no response. Philippe and the LAS got involved, casing the situation a couple of times, and we had two successful star parties at the site. We are still attempting repairs, free of charge for school district as part of our outreach program.

Archer Sully offered to donate a laptop for driving stepping motors.

Motion was made to allocate our \$400 donation to this project. Motion passed unanimously.

Members who observed Venus transit were asked to give "show of hands."

A good 1/3 of room raised hands! Bob Spohn reported that his observations were mostly clouded over. Steve Albers and Philippe Bridenne reported their observations.

Upcoming star parties: Fox Park "new moon" star party announced for this weekend. It is about a 2.5 hours drive up 287 to Laramie. Following Saturday Flanders "first quarter" public observing star party. Check the web site for maps to these events.

Front Range Community College (FRCC) update: We're in! Whoot! Sept. 1st meeting will be at FRCC. Planning "snail mail" mailing to ensure all members get the word. We can meet at FRCC 9 months of the year, 3 months elsewhere --- Fiske programs, or club funds pay for classroom at FRCC. We receive half price as a non-profit, and student fees for Science and Tech department pay even that! Free to us! In return we will give quarterly star-parties on-site at FRCC for the students.

Michelle Lavers reported on tri-town party. The observing site is up the road from the golf course, approved by mayor. September good site, 3rd quarter, labor day preferred.

Mike Fellows donated his raffle prize, his private star party, to the "Boulder County Partners", 3rd week in August, August 22nd. Mike Hotka will promote in newspaper.

Don Cerow announced next StarMyths presentation, Saturday July 31st. A special StarMyths presentation for Longmont kids (girls scout camp) will be given at Union Reservoir Fri. Aug 13th. 30-40 youngsters expected.

Suzanne Traub-Metlay announced Perseid Meteor shower observing, sponsored by BASS, August 12th, at CU boulder mountain research facility near Nederland. Begins at 10pm, ends at 2am. Information is on the web site. Please RSVP as space is limited.

Ray Warren presented information on the "Genesis project". Search for origins. It is the first sample return mission since the moon (plus the also on-going comet wild return mission). Captured solar wind in collector panels. L1 parking orbit. On way home, land in Utah desert salt flats via snagging from airplane, ETA August 4th.

--- BREAK ---

During the break, Philippe Bridenne presented 1882 Venus transit, reanimated from early photography glass plates, saved for 120 years at Mt. Hamilton, CA. Recently discovered and scanned. The link is in the S&T magazine.

Ray Warren played interesting Jay Leno interview with owner (Burt Rutan) and pilot of "SpaceShip One" that made history by being first private enterprise to launch civilian to space (62 mi.) 1st private satellite launch also scheduled to happen today?

Suzanne Traub-Metlay, PhD, introduced as the spearhead of our FRCC efforts, and the new Educational Programs Manager at Fiske. Suzanne presented: "Cassini-Huygens Mission to Saturn and Titan. Encounters w/ Plant, Rings and Moons"

Suzanne presented new images of Saturn from Cassini, including shot through rings, amazing! Suzanne discussed background on Saturn, and background on Cassini mission. She presented NASA mission specs. Huygens probe delayed to January. 4 year mission, 3 space agencies: NASA, ESA, Italy. 17 countries, 280 scientists contributed. Cassini has 12 science instruments on board. Why Italy? Offshoot of Marconi, radio pioneer 1898. Marconi is still #1 aerospace company.

Suzanne presented various views of Saturn, including view from earth, Pioneer 11, and Voyager 1 and 2, and now Cassini. Stripes and bands, created by winds, similar to trade winds on earth. Colors created by ammonia and nitrogen compounds, some methane and water, and pollutants. The poles are not ice covered.

Suzanne presented the Jovian planets -- inside out! Core of rock, size of earth! Maybe metals also, not detected. Metal mainly found inner planets, Mercury 70% metals. Venus and Earth have big metal cores, two layers, solid and liquid metal. Creates magnetosphere due to dynamo effect of liquid spinning around solid, compared to peanuts and peanut butter.

Jovian planets have rocky core, liquid ice, and pressure. Liquid metallic hydrogen, helium. Conductor due to squished electrons jumping from one energy level to another. Immense, powerful magnetic field. 10 hour rotation, 2 hours less than Jupiter. Compared magnetic field to Uranus and Neptune, whacky fields off kilter from rotational axis, and liquid water as conductor?

Question was asked, what would we find descending through atmosphere?

Helium rain, wet soupy environment, moving, churning, high pressure. Saturn's magnetosphere is awesome. Discussed questions needing answers: are winds surface only? Gravity function of mass? Water abundance? Internal structures, heat, gravity, magnetism, how deep convection cells?

Rings and moons are related! Comet exploded 100 mil years ago, temporary ice, and radiation darkening. Spokes, observed 20 years ago by Voyager 1 and 2, dusty plasma. Unstable beauty, dusty plasma charged particles follow magnetics.

Inner moons dirty -- Roach limit, 2times radius of planet. Like comet Schoemaker-Levy, moons pulverized, feeding rings.

Resonance, periodic alignment of bodies resulting in gravitational interactions, produce stable or unstable orbits.

Enke gap, shepard moons, and more!

Many thanks to Suzanne Traub-Metlay for the interesting presentation!

Star Party Raffle on August 22nd by Bob Spohn

I just wanted to let you know that the winner of the star party raffle – our own Mike Fellows - has selected the time and place for the star party.

The date is Sunday, August 22nd, and it will be at his home: 4500 Mulberry Court, Boulder, which is in the Gunbarrel/North Boulder area.

We would like to get as many as possible telescopes and astronomers out there, as this is primarily for a children's charity - Boulder County Partners. Please e-mail as soon as you can to let me know you if you are able to participate, and we can finish making final arrangements. Thank you very much, and I will get maps out to all of the volunteers. Please let me know if you have any questions.

Tri Town Star Party on September 4th by Michelle Lavers

Milavec Lake in Frederick is located on WCR 13 in between roads 20 and 18. From Longmont take Hwy 119 East to WCR 13 turn right, take that past Rd 20. The entrance is on the Right side directly across the street from the Entrance to Safeway. LAS members are permitted to use the access road to the location which is on the North East side of the lake near the picnic area. We will begin at dusk on Saturday, September 4th. If there are any questions or clarification of directions please contact me at mmiishaa@hotmail.com

Summit County Star gazing party on September 10th by Gary Schaecher

Recently Susan Alderman who is a member of the Blue River Group of the Sierra Club organized a meeting on September 17th for government officials to educate them about deteriorating night vision in Summit County. Dr. Stencil from the DU Astronomy Department will be a guest speaker.

To raise public awareness of these issues it was felt that a star party sometime prior to the September 17th meeting would help bring the average citizen into the educational process. We don't have any organized astronomy group here in Summit County but a few of us have scopes and limited experience.

We are asking if any of your club members would be interested in helping and participating in a small star party for the citizens of Summit County. We would be willing to host several astronomers by providing gas, meals, and a place to stay in Breckenridge if they would like to spend the evening.

If someone would be interested please have them contact me:

Gary R. Schaecher
970-468-4782 home
970-389-2698 cell

As we would need to get notices in the Summit Daily News and on the radio we would appreciate from hearing from interested parties ASAP.

Fox Park report by Gary Garzone

I just got back from another super weekend at Fox Park. Nothing comes close to viewing from wide Wyoming, at 9000 feet or so and clear skies, Milky Way was so bright, two comets and over 100 objects viewed over the weekend.

Fox Park is an observer's dream sometimes and this past weekend was what dreams are made of. Several of the Dark Sky marines showed up for a rather dewy Friday night but very clear, after showers and rain that day. Saturday was total clear skies thru entire night, only haft as dewy as Friday. LAS people, Bill Travis, Don and Lisa, Ken, Dick Latt, Bill Possel, Dave D, Steve, Terry and Zach Lynch and dogs, Carol, my wife, and myself, Gary, and dog, Sammie.

We all got to see both Comets that are still up Q4 and K 7 I think, which still are a very nice view. It was a huge list of objects seen, over 50 for me just on Saturday night. We stayed up till we dropped about 3:30 am Saturday morning and 3 am Sunday morning. Saturday during the day we even got some great solar views thru Dave Dunn's H alpha and Baader solar film scopes too. I tried pictures in both H alpha and Baader and none of my H alpha ones came out good but sun spot pictures came out good.

Blue sky like a normal summer day in high country, lows of 36 degrees and highs in low 80's, I just love viewing from Fox Park, still my favorite place. We are ready for WUTS Marty and Marcy, see you next month.



Trimming Your Toenails, the Astronomy Way by Michael Hotka

One Wednesday night at Leigh Pierson's place, Leigh, Jeff Wilder and I were talking about Jeff's Astronomy class he is taking. Jeff was reciting some facts and interesting concepts that he had learned while taking this class. It was very interesting.

Jeff said that if you take an object, with the mass of the Earth and could force it to the density of a black hole, the event horizon of this black hole would be 1 cm in diameter. The event horizon is that imaginary line around a black hole, that once you cross it, you are in the death grip of the black hole and will not return.

So I was thinking, a black hole with an event horizon 1 cm in diameter. You can't see a black hole, for its black, or colorless. Right? If it would "absorb" the light that is just on the other side of it, it would look black in the absence of any light? Right? This means that you might be able to see "this" black hole.

Say this black hole was just floating around your house. Would you be missing stuff, like your car keys, when the black hole floated past where you normally hang them and (sucking sound) your keys are gone?

Or even worse, you know this black hole is in your house. You have black dots floating all over the place. You start looking for the black dot that is "the" black hole by extending a stick into every black dot floating around your home to see if any of the stick gets eaten up by the black dot when part of the stick passes the event horizon. The other black dots are probably just large dust bunnies floating around. Ignore these for this discussion's sake, because you already have ignored them for some time for them to grow to such a large size.

Say you found "the: black dot that is a black hole in your house. You know exactly where it is for you can see it and it is different from the other black dots floating around your home (remember, this one ate your stick). You are barefoot and you notice that the toenail on your big toe needs to be trimmed. So you just extend your foot and toenail into the event horizon of that black hole in your home, and voila, the toenail is nicely trimmed.

But be careful, if you lose your balance, you might just lose the whole toe.

The Herald-Bobroff Review by Bill Travis

I first saw this atlas at the Sterling Star Party. David Dunn had it in his collection, along with Sky Atlas 2000.0 and the old Skalnate-Pleso Atlas of the Heavens (which was fun to look at and brought back memories of the 1960s when it was the best an amateur could get). Needing to purchase an atlas, I tested all three on a group of obscure galaxies that Bill Possel showed me one night at Pawnee, and the Herald-Bobroff was the only one of the three atlases that had them all.

This is an unusual star atlas for several reasons. It is Australian, and went out of print in 2002. Then Robert Haler, owner of Lymax, an astronomy store near Kansas City, decided to buy the rights to reprint it. Lymax was apparently forced to trim the sheet size to suit U.S. printing presses, which reduced the size (and scale) of the maps slightly. Also, in comparing my new copy with David Dunn's original at Fox Park in July, I noticed that the print was less distinct, that is, the ink saturation was lower and some of the lines and symbols less readable, especially under dim red light. The atlas comes ring bound, and only in black objects on white paper. It is thick: 214 charts, arrayed in six series at increasing scales (that is, covering a smaller and smaller part of the sky, in increasing detail and limiting magnitude). If you want to find pretty much everything there is to see (without benefit of the HST that is) in, say, Puppis, you start with the all-sky chart A-02, which points you to chart B-12 (or to BS-12, which is the same map with south at the top for southern observers --- the atlas is Australian, after all; there is also a BM-12 which is the same as B-12 except that all star magnitudes are

My copy arrived with a small blemish on one of the plastic pages and the back cover not properly attached to the ring, but otherwise I'm happy with the atlas. Still, the slightly reduced chart size, scale, and print quality might recommend searching for a used copy of the original.

For more information visit <http://www.heraldbobroff.com/> and or www.lymax.com

Do you have a radio that receives WWV time? By Harry Albert

Dear Folks, here are a few other ways to get accurate time.

One is with a telephone: call 303-499-7111 to listen to the sound of the WWV broadcast. This works for several minutes, then the system hangs up and you have to re-dial. In the field, a cell phone would be fine. Another way, which could be more accurate than a WWV receiver, is to use a GPS receiver. They are available for as little as \$80 (Target on special, EMS on special, for a Garmin Geko). The GPS unit corrects for transit time of the signal from the satellite clocks. But the delays of the liquid crystal display probably exceed the uncertainties of time for radio signals to arrive from Fort Collins to a WWV receiver, and there is no audible click.

I too have an "atomic" clock, a gift from a son. It has as its "smarts" an integrated circuit (cost several dollars) which, with a few other cheap parts, is a radio receiver to pick up the 60 kHz carrier from Fort Collins station WWVB. That carrier, inaccessible to short wave WWV receivers, travels exclusively by ground wave, so it has a more predictable delay than the short wave WWV receivers' signal. Short waves often arrive after bouncing off the ionosphere, a path whose altitude varies. For WWVB, the time is encoded in the carrier by slight phase shifts, which are decoded by the integrated circuit and used to update the clock every so often. My clock recently had an error, for a day or two, of exactly 4 hours. I have no explanation, but perhaps hot weather and old batteries had some effect. Note that WWVB's 60 kHz is a Very low radio frequency. The AM broadcast band is 550 to 1600 kHz or so, and the lowest WWV (short wave) frequency is 2500 kHz. Radio Shack used to sell a small, cheap, cube-shaped WWV receiver. Some WWV receiver kits are on the web for thirty or more dollars. But Ham Radio folks have cheaper ways: try

<http://qrp.kd4ab.org/1997/970728/0004.html>

This looks like a Direct Conversion receiver (aka DC) with a 10 MHz quartz crystal. It might take \$10 worth of stuff from Boulder's J B Saunders (electronic surplus) for a ham to cobble up such a receiver from scratch, for use with a stray pair of headphones from a Walkman-type rig.

If anyone is interested in such a project, get in touch with me.

Lyrid Meteor Shower with David Levy from Karen Mendenhall

The link below should be fun to put in the newsletter. When I was visiting David Levy's home in April for the Lyrid meteor shower, he and Wendee decided to record 45 minutes of our observing session for his "Let's Talk Stars" [online] "radio" show.

A surprise that evening too was that he invited to his house an old friend of the LAS, Thom Peck! Thom was a member of the LAS for a long time, and a president for one year as well. When I was talking to David one evening prior to my visit I just happened to mention, "Hey, maybe you know Thom Peck? He moved to Tucson from Longmont." Well just so happened that Thom is currently the president of the Tucson club! So when I went to David's in April he had invited Thom and his wife as a "surprise guest". It was fun and good to see him. It sounds like he has done very well for himself in Tucson.

You can hear Thom and his wife, David and Wendee, my sister and niece, and me, on "Let's Talk Stars" as we sat in David's observatory that evening watching for Lyrids. It was a fun evening.

The link to archived shows is: <http://www.letstalkstars.com/cgi-bin/archive.pl>

Scroll down to
6/1/04 Misc. Friends Lyrid Meteor Shower (4/22/04)

I only went and checked the website last week and listened to the show. I've been so busy with other things I had forgotten to check and was not sure when they would air it, if they would air it. I was pleased to find it. :)

Classified

To sell:

I am trying to sell 10" Sears Craftsman table saw

Price: \$200 sends email to Brian bnimball@msn.com or calls him at 303-678-0525

I am trying to sell a Celestron Ultima 9.25. If the deal were local I would expect closer to \$1,600 or so and accept credit cards.

<http://www.astromart.com/viewad.asp?cid=233874>

Jared Workman

Celestron Firstscope 76 3" Newtonian on an equatorial mount. In "like New" condition. Asking \$100. Please contact Jerry Kunselman (friend of Bill Possel) at 303-772-8786.

JMI NGF-DX1 focuser. Has 2 inch to 1 ½ inch adapter. \$150.00. Contact Mike Hotka at mhotka@yahoo.com
All..

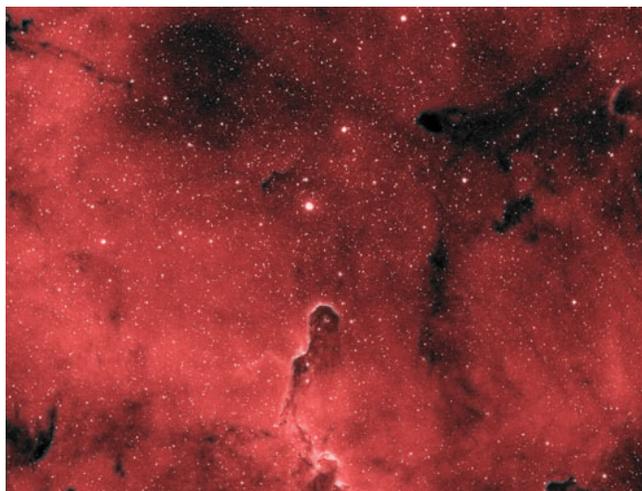
I am selling my binocular observing chair. It swivels and pivots to any azimuth and altitude. Everything you see in the picture, except for me, the clipboard, jacket and the binoculars, for \$70, the cost of the materials I have in this chair. Contact me at mhotka@yahoo.com if you are interested in looking at this.

To buy:

Wanted: Large dob, say 14-15 inches, in good working order, preferably with digital settings circles. Thanks!
Bill Travis, 303-530-5010, wtravis@colorado.edu

Do you have a radio that receives the WWV time signal, collecting dust in your basement? Do you wish to sell it? If so, contact me. I am looking for one. mhotka@yahoo.com

If you have astronomy stuff to buy or to sell, send an email to your newsletter editor
philippe_bridenne@yahoo.com



IC 1396 by Brian Kimball

September Sky Map

