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Dear members and friends,

Plans are being made for a stargazing filled 2004. Several officers have been scouting out locations for dark close-in sites, some school parties are being organized and we are getting ready for Astronomy Day and the Sterling Reservoir Star Party, the 1st big front-range party of the year!

Please try to attend, if you can, the following 2 events:

The Carri Martin Elementary School Science Fair this Friday, the 20th. The address is 4129 Joni Lane - just off of Taft street and SW 42nd Road. If you show up around 5:30, they’ll even feed you dinner! There was a great turnout of kids and parents last year; we could use more scopes.

Terry Frazier is also looking for volunteers for a star party at Front Range Community College: On Friday, Feb 27th (1st quarter Moon), Front Range Community College will be holding an Astro Open House on their Westminster campus. They’re looking to the L.A.S. for astronomers and telescopes. And maybe some cookies?

The FRCC Westminster campus is located at 3645 West 112th Ave, on the north side of the street between Sheridan and Federal. The Open House will begin at sunset and end when we pack up and leave. I believe we will be setting up in the large, paved parking lot on the west side of the campus, near the library. In case of an uncooperative sky, Saturday the 28th will be the backup date. Gary Garzone plans to be there with his 16 or 30. If you, too, can assist with the FRCC Astro Open House, please email or call me. Thanks, Terry Frazier, 720-890-7112.

Let’s try to support these educational functions and help these folks, young and old, who want to learn more about astronomy.

Clear skies,

Bob Spohn
President
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Meeting called to order by Bob Spohn our President

Welcome and introduction of visitors.
- Philippe Bridenne introduced his friend, Philippe, visiting from France
- Brian and Melody
- Gary Wheeler, guest of Bob Noble

Officer reports:
- President:
  2003 was a very good year for LAS. We would like to maintain the momentum for 2004.
  We have a new internet domain for LAS: http://longmontastro.org
  We would like to have a push for more Astronomical League (AL) observing certificates in 2004
  We gained many new members in 2003.
  LAS funds increased in 2003. LAS is on a roll! We would like to keep it up!
  We want to have a lot of fun in 2004.
- Vice President:
  Melinda is working on organizing Astronomy Day for 2004, to be held April 24th.
  There will be a public presentation at Twin Peaks Mall in Longmont.
  Flanders Star Party: Melinda will be contacting members for assistance
- Secretary:
  We have registered new, easier to remember domain for LAS http://longmontastro.org
  Mike has created a web server for LAS, to host our web site. He is working with webmaster Steve Albers to
  move the site, and expect completion in by Fri 1/16/2004. Mike is also working on "listserv" to centrally
  manage all emails to club members. It will allow members to subscribe, unsubscribe, change address by
  sending email.
- Newsletter Editor:
  Philippe distributed 20 copies of the January newsletter. Highlights include solar eclipse report by Karen,
  2004 banquet pictures and comments, an "astrophotographic corner" to showcase some member's work. He
  ran out of space in this edition, skipping "constellation of the month" this month only.
- Publicity and Fundraising:
  Reminder of stuff available for sale:
  - vinyl stickers
  - patches for $5.00
  - patches autographed by David Levy
  - t-shirts for $10.00 or $14.00 (for the unlucky large people)
- Treasurer:
  Monica was ill at home
- Telescope team, by Leigh Pierson
  Leigh is working with Don Bunker to build boxes for six 6" scopes.
- Webmaster:
  Steve is moving web site to new server and domain
  - Astronomical League Report. Bill Possel being ill, the report was given by Bob Spohn:
    Bob introduced the Astronomical League (AL). The Astronomical League is composed of over two hundred
    and forty local amateur astronomical societies from all across the United States. These organizations, along
    with the Members-at-Large, Patrons, and Supporting members form one of the largest amateur astronomical
    organizations in the world.

  AL basic goal is to encourage an interest in astronomy (and especially amateur astronomy) throughout
  America. Many people have seen pictures of the other planets in our Solar System from spacecraft, but have
no idea that they too can see these objects with a telescope. AL wants people to get access to telescopes, whether it is through their local astronomical society, school, or their own instruments, and use them to view the beauty in the heavens.

The mission of the Astronomical League is clearly stated in the masthead: to promote the science of Astronomy. The major benefit of belonging to this organization is receiving the quarterly newsletter, The Reflector, which keeps you in touch with amateur activities all over the country. The chance to meet the people you read about there occurs during our annual National Convention, or at one of the ten regional conventions that the AL sponsors.

As a member of the Longmont Astronomical Society, you are automatically enrolled and become part of the AL.

Astronomical League members can order astronomy-related books at a 10% discount through the Book Service. Books and other material published by the Astronomical League as well as clothing and jewelry can be purchased from the A.L. Sales Office. The Observing Clubs offer encouragement and certificates of accomplishment for demonstrating observing skills with a variety of instruments and objects. These include the Messier Club; Binocular Messier Club and the Herschel 400 Club.

Bob also discussed AL observing clubs and programs, and he would like to encourage members to try. See Bob for details, and check AL website at http://www.astroleague.org/
Participants to the observing clubs, will receive a certificate and enameled lapel pin for completing observing programs.

Bob would like to see 1/2 of the club members get started on observing program in 2004.

Then Bob went through the list 21 observing programs, including CCD observation, naked eye, telescopic, binocular, learner, and topical.

- Learner programs include lunar observation (man in the moon, craters, etc)
- Urban observing - 100 objects in light polluted sky (milky way not visible)
- Universe sampler club, designed mainly for beginners, sounds like fun, learn star-hopping, types of objects, naked eye or telescope.
- Sky puppy club, for children up to age 11. Includes project book for drawing, including 14 constellations.
- Three binocular clubs:
  + Messier: observe 50 out of 110 fuzzy objects
  + Deep Sky: observe 60 non-Messier objects
  + Southern Skies: observe 50 of 73 objects, below 40 degrees.
- Telescopic clubs:
  + Messier: observe 70 of 110 objects, or all objects for honorary
  + Herschel NGC - dimmer objects, harder than Messier, 400 objects on list
  + Herschel 2: next 400 objects
  + Caldwell: from Patrick Caldwell Moore, British astronomy popularizer, observe 70 of 109 objects or all for honorary
  + ARP peculiar objects, observe 100 of 338, very dim, suited for CCD imaging.
  + Galaxy club: observe 120 galaxy groups (clusters of galaxies)
- Special interest programs:
  + Asteroid: 2 levels, w sketches or CCD (2 images per)
  + Double star club, 100 drawings
  + Master Observer club: complete 10 programs, 5 of which are Messier, binocular, lunar, Herschel
  + Meteor club: 6 hours, 1 hour per session, 9 attributes and sky conditions
  + Planetary: 25 projects, drawings
  + Sun spotters: 2 sets of drawings, including sunspots and whole disk through 2 solar rotations.
Old business:
Great banquet, best yet!  David Levy was a great speaker, and "regular guy"
Tapes of David Levy talk at Banquet are available to club members, with permission from David Levy. One copy available for free checkout, members can buy a copy for $5.00.  Ray Warren is doing editing and copying.  Sign up sheet passed around.

Observing reports:
Gary Garzone discussed imminent completion of his new 30" scope.  He is getting new coatings on mirrors.  Scope almost done despite car driving through wall of shop, fortunately no one hurt, and scope not damaged.  Gary reports Saturn looking extra good these days.

New business:
Bob introduced a motion to pay $15/month ($180 year) to Mark Propp for cost of hosting web site. Motion was approved.

April 24th is Astronomy day this year, we are planning public displays at Twin Peaks Mall, and Flanders Star Party that night.  Good opportunity for public outreach, new members.

Mike Hotka discussed plans for raffle, including ticket sales on astronomy day.  Mike is planning 440 raffle tickets, at $1 apiece. The prize is "private star party", or "picnic under the stars" for winner and 10 friends.  We are hoping to cater food.  The star party will be hosted at site of winner's choice (backyard, whatever) before September 1st. The winner will be selected at May meeting.  We have state approved raffle/bingo license.  Mike is looking into possibilities of serving food.  Mike is hoping for help from members.

LAS is looking for possible new meeting location.  Current site at Longmont Christian School has been very good to us for 10 or 12 years.  We need more accessibility, downstairs is tough for increasing number of members.  We are hoping to form committee for site selection.  Desire low or no cost site, club funds are available.  See officers at break to offer help.

Star parties:
New moon this weekend, at Pawnee National Grasslands (Hwy 14 near Alt) Saturday 1/17/2004.  Weather does look to be clearing in time (hope hope).

First Quarter star party at Flanders Park (near Lake Macintosh), January 24th.

Mark Propp mentioned good, close dark sky observing site at "Glacier View", up Highway 7 past Lyons, 2 miles past "Raymond and Peaceful Valley" 2nd turnoff. Landmark is "Emergency Call Box".  This is an excellent site, only 24 miles from Longmont.  Mark will be preparing detailed directions and map for web site.  Since the parking lot is public property, we do not expect hassle from local police to observe there.  No facilities, other than trees, at this point.

Gary Garzone discussed planning underway for Sterling Reservoir, big area star party April 17th.  The camping fee will be waived, $5 per day park access for members not holding park permit.  The Chimney View campground is very nice.  Start Friday night 16th, officially Saturday night 17th. We are expecting lots of locals again.  Private setting, no lights.  Heated showers and toilets are available.  No electricity??

+ comet club: silver 12, gold 18.  2 can be prior to Jan 2003, include CCD, scope.
+ new one coming for globular clusters
Gary and Terry are organizing Astronomy 101 day at Front Range Community College, February 6th from 2 to 3 pm. Gary will be bringing reflector, other types of scopes welcome to demonstrate. For more info, or to help, send email Terry Frazier at: scripterry@earthlink.net

We auctioned lovely photo of Saturn by Brian Kimball.

Break

After the break, Emily Haynes went through an interesting presentation on Mars Rover Project. She discussed the MER mission description, Mars landing sites, ASIP: Athena Students Interns Programs, and how her team was invited. 13 high school teams nationally (13 teachers, 26 students) She pointed where to download "Maestro" software, similar to SAP (Science Activity Planner) software used by science team. View images, spectral images, name the rocks, name the features of rocks, and plan the rover path.
She also discussed Mars geology, globally and locally
This program is made in association with Dr. Bill Farrard, from CU and SSI.
The student interns were Mark Girard and Miranda Tafoya.
References:
http://mars.telascience.org/
http://marsrovers.jpl.nasa.gov/home/index.html
Malin Space Sciences systems, used "genius grant" to start business making cameras for orbiters and rovers.
http://themis.asu.edu Mars Odyssey info (also Malin) and thermal images.

**Pawnee was awesome again by Gary Garzone**

We had 12 people show up at Pawnee for another great clear and dark night. Seeing was best in long time, Saturn everybody had at highest powers, Jeff White was at 3 mm on 3000mm focal length which means over 1000x on Saturn before it started to look bad. He took lots of Saturn shots and we should be getting some pictures back from him soon I hope. It was very cold , about 20 degrees, but we all were dressed for it and stayed up till almost 2 am before cold did mirrors in with frost build up.
Comet was easy to find and pretty bright with short tail , should be able to find in yard , about 8th magnitude. Jupiter was pretty good along with NGC4565, edge on favorite, and so many more to name. I hope some of my digital Saturn and Jupiter pictures come out. bye, gary
For all of those that did not make it last night you missed some incredible seeing! Here is one of a few pictures I took of Saturn. Jeff.

Comet picture by Tom Teters

I think I need to post this here as this is a big change in a couple of days. 12 minutes of exposure time with a negative insert. I have two sizes for loading. Thanks, Mike H.

Small  http://www.fototime.com/DF048A6FBDC4842/standard.jpg
Large  http://www.fototime.com/DF048A6FBDC4842/orig.jpg
If all works out I'll be photoing this comet Sat.
There will be a S.P. at Cactus Flats North (if muddy) C.F.

Think Cosmic,
Tom T

Announcements

Denver Museum of Nature & Science's
Events, Lectures, and Programs
Tuesday, February 24
Flying in Space with the MMU
Bruce McCandless II, chief scientist, Lockheed Martin
7:00 p.m., Ricketson Auditorium
Cost is $10 for members, $13 for nonmembers, $8 for students

Friday, February 27
60 Minutes in Space: Beyond the Headlines
Curators from the Space Sciences Department
7:00 p.m., VIP Room, Denver Museum of Nature & Science

Free, no reservations required
Space Science curators Dr. Steve Lee and/or Dr. Dimitri Klebe will take you behind the headlines and give you the spicy details of breaking news in space science. Find out what’s happening in the cosmos with reports of breakthroughs and events in astronomy and space exploration.

Mars Exploration Rovers Updates
As new images and data become available, they will be updated on Space Odyssey’s Mission Board and high-definition Space Screen. Drop by to see the latest and best from the twin robot geologists on Mars – Spirit and Opportunity!

Athena's Web presents the Spring Equinox
On Friday, March 19th, 2004 at 7:30 PM
Come celebrate the Spring Equinox while hearing tales of JUPITER and the constellation Leo. See JUPITER, SATURN, VENUS, MARS through large telescopes.

Call 303-417-6625 or starmyths@hotmail.com
http://www.AthenasWeb.com

~These events are FREE~

(although donations will be greatly appreciated.)

Science Fair on February 20th in Loveland
My name is Krista McLeran. I am with the Carrie Martin Elementary PTO (Loveland), and I am helping to organize our annual science fair this year. Keith Liddle, our principal, told me to contact someone from the Longmont Astronomical Society about the possibility of you guys coming to our school and setting up a couple of your telescopes again this year.
Our science fair is Friday, February 20, 2004 from 5:30-7:30 pm.
Thank you, Krista McLeran mcleran4@aol.com 970-613-1737

Mars Exploration Rover at Centaurus High School on February 25th in Lafayette
Centaurus High School science teacher Emily Haynes and her students will present information about the Mars Exploration Rover Mission they are involved with at Pioneer Bilingual School (101 Baseline Rd.) in the Cafeteria on Wednesday, February 25th starting at 7 pm. Refreshments will be served. Weather permitting we’ll head down to the Outdoor Classroom after the program at 8 pm to look for Mars and star gaze. Please dress warmly and bring a flashlight. This Outdoor Classroom Task Force sponsored program is free and appropriate for all ages.

Visit http://marsrovers.jpl.nasa.gov/classroom/students/asip.html for more information about the Athena Student Interns Program. Centaurus is one of 13 lucky schools in the country involved in this NASA program. Ms. Haynes and her students visited the Jet Propulsion Laboratory in early February and will come back with lots of exciting stories for our program.

Please call me at 303-665-5506, ext. 3456, if you have any questions.
Judy Wolfe
Lafayette Parks & Recreation
Front Range Community College Astro Open House Feb 27th

On Friday, Feb 27th (1st quarter Moon), Front Range Community College will be holding an Astro Open House on their Westminster campus. They're looking to the L.A.S. for astronomers and telescopes. And maybe some cookies?

Beyond the visceral urge to share views with the uninitiated, there’s a good reason for us to help? FRCC teacher Dr. Suzanne Traub-Metlay is trying to arrange for the L.A.S. to have free use of FRCC facilities in Longmont for our monthly meetings. I think we can bolster our position by continuing what is becoming a tradition of cooperation between FRCC and the L.A.S. In the last few months, we have provided astronomers and telescopes several times to FRCC AST 101 and 102 classes. Gary Garzone and other Dark Sky Marines have promoted astronomy education by adding the dimension of actual observation for FRCC students. The Astro Open House (not an official title) will be open to all FRCC students and interested citizens, not just astronomy students. FRCC astronomy teacher Clara Wente, the FRCC coordinator for this event, expects dozens of people to show up.

The FRCC Westminster campus is located at 3645 West 112th Ave, on the north side of the street between Sheridan and Federal. The Open House will begin at sunset and end when we pack up and leave. I believe we will be setting up in the large, paved parking lot on the west side of the campus, near the library. In case of an uncooperative sky, Saturday the 28th will be the backup date.

Gary Garzone plans to be there with his 16 or 30. If you, too, can assist with the FRCC Astro Open House, please email or call me.
Terry Frazier
720-890-7112

New Galaxy Beats Distance Record

Summary - (Feb 16, 2004) An international team of astronomers have found what could be the most distant galaxy ever discovered. Located 13 billion light-years away, it's being seen when the Universe was only 750 million years old. The object was found by combining the power of the Hubble Space Telescope and the W.M. Keck telescope; they also used the natural gravitational lensing effect of a relatively nearby galaxy, which focused the light of the more distant galaxy. This galaxy is small - only 2,000 light-years across - but it's forming stars at a furious rate.

News Release - The most distant known galaxy in the universe
An international team of astronomers may have set a new record in discovering what is the most distant known galaxy in the universe. Located an estimated 13 billion light-years away, the object is being viewed at a time only 750 million years after the big bang, when the universe was barely 5 percent of its current age.

The primeval galaxy was identified by combining the power of NASA's Hubble Space Telescope and CARA's W. M. Keck Telescopes on Mauna Kea in Hawaii. These great observatories got a boost from the added magnification of a natural "cosmic gravitational lens" in space that further amplifies the brightness of the distant object.

The newly discovered galaxy is likely to be a young galaxy shining during the end of the so-called "Dark Ages" — the period in cosmic history which ended with the first galaxies and quasars transforming opaque, molecular hydrogen into the transparent, ionized universe we see today.

The new galaxy was detected in a long exposure of the nearby cluster of galaxies Abell 2218, taken with the Advanced Camera for Surveys on board the Hubble Space Telescope. This cluster is so massive that the light of distant objects passing through the cluster actually bends and is amplified, much as a magnifying glass...
bends and magnifies objects seen through it. Such natural gravitational "telescopes" allow astronomers to see extremely distant and faint objects that could otherwise not be seen. The extremely faint galaxy is so far away its visible light has been stretched into infrared wavelengths, making the observations particularly difficult.

"As we were searching for distant galaxies magnified by Abell 2218, we detected a pair of strikingly similar images whose arrangement and color indicate a very distant object," said astronomer Jean-Paul Kneib (Observatoire Midi-Pyrenees and Caltech), who is lead author reporting the discovery in a forthcoming article in the Astrophysical Journal.

Analysis of a sequence of Hubble images indicate the object lies in between a redshift of 6.6 and 7.1, making it the most distant source currently known. However, long exposures in the optical and infrared taken with spectrographs on the 10-meter Keck telescopes suggest that the object has a redshift towards the upper end of this range, around redshift 7.

Redshift is a measure of how much the wavelengths of light are shifted to longer wavelengths. The greater the shift in wavelength toward the redder regions of the spectrum, the more distant the object is.

"The galaxy we have discovered is extremely faint, and verifying its distance has been an extraordinarily challenging adventure," said Dr. Kneib. "Without the magnification of 25 afforded by the foreground cluster, this early object could simply not have been identified or studied in any detail at all with the present telescopes available. Even with aid of the cosmic lens, the discovery has only been possible by pushing our current observatories to the limits of their capabilities!"

Using the combination of the high resolution of Hubble and the large magnification of the cosmic lens, the astronomers estimate that this object, although very small — only 2,000 light-years across — is forming stars extremely actively. However, two intriguing properties of the new source are the apparent lack of the typically bright hydrogen emission line and its intense ultraviolet light which is much stronger than that seen in star-forming galaxies closer by.

"The properties of this distant source are very exciting because, if verified by further study, they could represent the hallmark of a truly young stellar system that ended the Dark Ages," added Dr. Richard Ellis, Steele Professor of Astronomy at Caltech, and a co-author in the article.

The team is encouraged by the success of their technique and plans to continue the search for more examples by looking through other cosmic lenses in the sky. Hubble’s exceptional resolution makes it ideally suited for such searches.

"Estimating the abundance and characteristic properties of sources at early times is particularly important in understanding how the universe reionized itself, thus ending the Dark Ages," said Mike Santos, a former Caltech graduate student, now a postdoctoral researcher at the Institute of Astronomy, Cambridge, UK. "The cosmic lens has given us a first glimpse into this important epoch. We are now eager to learn more by finding further examples, although it will no doubt be challenging."

"We are looking at the first evidence of our ancestors on the evolutionary tree of the entire universe," said Dr. Frederic Chaffee, director of the W. M. Keck Observatory, home to the twin 10-meter Keck telescopes that confirmed the discovery. "Telescopes are virtual time machines, allowing our astronomers to look back to the early history of the cosmos, and these marvelous observations are of the earliest time yet."

The Caltech team reporting on the discovery consists of Drs. Jean-Paul Kneib, Richard S. Ellis, Michael R. Santos and Johan Richard. Drs. Kneib and Richard also serve the Observatoire Midi-Pyrenees of Toulouse, France. Dr. Santos also represents the Institute of Astronomy, Cambridge, UK.
Classified

To sell:
10” Sears Craftsman table saw
Price: $200 sends email to Brian bnimball@msn.com or calls him at 303-678-0525

Complete set (3 books) of 1st edition of Uranometria 2000.0 Observing Guides. Excellent condition. Contains Volume 1 and 2 and Deep Sky Guide. Sells as a set only. $80.00 for set which is 50% of price for a new set of these guides. Contact Mike Hotka deepskymike@earthlink.net

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

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

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