

The Objective View

Newsletter of the Northern Colorado Astronomical Society

March 2005

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Open House, Chamberlain Observatory, dusk to 10 pm
Mar 19, Apr 16, May 14, Jun 11, Jul 16 303 871 5172
<http://www.du.edu/~rstencil/Chamberlain/>

Longmont Astronomical Society
March 17 7 pm 550 Coffmann St
<http://longmontastro.org/>

About our March 3 Speaker

Jim Burr is the founder of JMI Telescopes, a well known company among the amateur astronomical community. Jim started his company as Jim's Mobile, and was originally formed for electronics repair. In 1983, Jim developed the MOTOFOCUS product, a motorized focuser which allowed amateurs to focus telescopes without creating vibration. His later innovations included a variety of electronic focusers and drive correctors, specialized cases, and an innovative line of split-ring Newtonian telescopes. His NGF Crayford focusers are ubiquitous among quality Dobsonian telescopes.

Next Meeting: March 3 7:30 PM

Innovation in Products for Astronomy Jim Burr

NCAS Business at 7 PM

Meeting directions Discovery Science Center
703 East Prospect Rd, Fort Collins
<http://www.dcsm.org/index.html>

In Fort Collins, from the intersection of College Ave and Prospect Rd, head East about 1/2 mile. See the Discovery Center sign to the South. Enter the West Wing at the NE corner. From I-25, take Exit 268, West to Lemay Ave, continue West 1/2 mile, see Discovery Center on the left.

NCAS Programs

April 7 Dr. Andrea Schweitzer
June 2 James Green, HST

NCAS Dark Sky Star Party Dates

March 4, 5, 11, 12

Cactus Flats site is on undeveloped parcel of prairie about 6 miles West of Briggsdale. Take Colo Hwy 14 East from I-25 (Exit 269). Go 19 miles East to Ault. Continue 18 miles East of Ault. At County Rd 65 (Milepost 170), turn North, go one mile. Site is through the wire gate on the right, no road, close gate and set up. Beware of the cactus. The site is now officially wheelchair accessible, but there are no facilities so bring essentials. Call **Tom Teters**, tomt@starmon.com, with questions about star party status or dates, 482-5702.

Starwatch at Discovery Science Center

703 E Prospect Ave, Fort Collins
March 18 6:30 pm

Other Events

Little Thompson Observatory Star Night, Berthoud
March 18 730pm Bryan White New 3D Aurora Show
<http://www.starkids.org> Berthoud HS Auditorium

Cheyenne Astronomical Society
March 18 7 pm Cheyenne Botanical Garden
<http://home.bresnan.net/~curranm/>

From Gary Garzone: Sterling Star Party April 7, 8, 9

Date: 02/13/05 15:41:44

To: LAS members

Subject: [LAS] Sterling Star party April 9th

Hello dark sky Astronomers, We have all agreed on new moon weekend of April 7, 8, 9th as the official dates for the North Sterling Reservoir Star Party. N. Sterling park ranger, Bob Loomis has done us good deal again with Free camping, just state park pass, 5 dollars is asked of us. I like this place for a star party, it can handle lots of people. It is early in the year but we will take the chance for good weather. This is the first of the summer months star parties. I hope lots of people can make it out once again. The last of the dark sky places left in America await those who do the drive. Very nice setting on top of bluff overlooking 3000 acre lake and trails around place. Bath house with hot showers will be open also. I will attach Bob Loomis e mail to LAS and me. I plan to do all three nights if at all possible. My old motto "have scope will travel", see you in the dark. later, Gary

February 3 Program

Astronomy of Ancient Peoples

Drs. Steve and Irene Little

Ancient civilizations without historical records reveal the astronomical knowledge of their cultures through the structures they leave behind. The lecture gave some examples of these interpretations of ancient astronomical knowledge and explained what they were observing. The oldest known building with a Sun alignment is the Newgrange Passage Tomb which dates from 3200 BCE. It stands in present-day Ireland. It is huge, about 260 feet long. Over stone basins, stones are piled so they form a corbelled roof, cutting off chords. It is fitted with a 60 foot passageway which aims at the winter solstice sunrise. On that day, sunlight can reach the floor of the burial chamber. The roof box, passage ceiling, and chamber floor line up for this effect. Stonehenge dates from 2950 to 1600 BCE. The massive stones of this structure

are aligned for sunrise and sunset at the solstices. Extremes of lunar sunrise and sunset are also reflected. Since the Moon's orbit is inclined 5 degrees to the ecliptic, it can trace farther North and South in the sky than the Sun. The Moon's orbit precesses around the Earth with an 18.6 year period, and ancient astronomers were conscious of this. The Moon at its very northern extreme is termed the major lunar standstill, and midway through the period, it reaches a minor lunar standstill. A simple horizon calendar is easy to make for middle latitude locations. The azimuth point changes visibly over the year. The Hopi planned field clearing, squash planting, and 2 corn plantings with a horizon calendar. The Littles then detailed Sun observatories in the Americas from 1600 BCE to 1400 CE. The earliest is the Great Gallery at Horseshoe Canyon in Utah. It is about 150 miles NW of the Four Corners region. It reached via 42 miles of dirt road. It is a pre-Anasazi site. Rock artists have positioned figures on a South-facing wall to mark the position of rock shadows at significant dates. A line of 12 bighorn sheep marks a ridge's shadow edge on the Winter Solstice day. At the Summer Solstice, the shadow of a rock overhang aligns with a prominent figure in the art. Medicine wheels are scattered between Wyoming and Alberta. The Big Horn Medicine wheel is located between Lovell and Sheridan, Wyoming. It is assembled from piled rocks on a hilltop. Material at the site dates from 1600 CE, but the first use of the site is not possible to date. Sighting over cairns and the center of the wheel marks the Summer Solstice sunrise. Significance of most spokes in the wheels is unknown. Over 30 medicine wheels are known, but access is restricted or prohibited for fear of vandalism. Elaborate structures were built in Chaco Canyon and surroundings from 940 to 1140 CE. Dating of the building is precise, with tree rings. Pueblo Bonito was the largest single structure in North America until the 1880s. On the Summer Solstice sunset, a window is positioned to cast light in a niche in the wall. Its south wall runs strictly East-West. Casa Rinconada is lined up N-S. Over 2000 trees were cut with stone tools. They were carried green 45 miles with bark in place (no drag marks, no beetle tunnels). The layout of building sites within the canyon is guided by lunar and solar sightlines. Fajada Butte towers over the entrance to the canyon. At its top is the famous Sun Dagger. Three massive rock plates allow needles of sunlight to strike petroglyphs below. As the Sun moves E to W, sunlight tracks from top to bottom. One or two dagger shapes illuminate the petroglyph on the solstices and equinoxes. Access is closed since the site is fragile. Petroglyphs are thought to commemorate the Supernova of 1054, and possibly a total solar eclipse in 1097. Three concentric circles with lines on one side may commemorate Halley's Comet in 1066. Cahokia, City of the Sun, was the largest city in North America between 800-1200 CE. The site can be reached in East St. Louis by I-70. The Monks Mound has a volume of earth greater than the Great Pyramid. The site is termed a Woodhenge. There were living quarters and burial mounds. It was abandoned in 1300 CE. The Littles encouraged all to find a way to visit Peru for Machu Picchu. The Temple of the Sun is aligned to reveal the Summer Solstice sunrise. The IMAX movie Solar Max has nicely produced reenactments at the site, which we watched. Closer to home, Chimney Rock

near Pagosa Springs features beautiful Chacoan structure. Construction started in August 1076, and a second phase was built between July-August 1093, based on tree rings. It is placed to align moonrise between natural 2 rock columns at the northern lunar standstill. This is when the Moon's rising points are making their maximum excursion North in the month. With addition of the Moon's orbit inclination to the ecliptic, a maximum lunar standstill occurs every 18.6 years, and 2005 is such a year. *Prehistoric Astronomy of the Southwest* by Malville and Putnam features a time exposure of the standstill on the cover. The Moon's light paints a complementary picture to the Sun, and makes its journey in a month instead of a year. The Moon may have been followed at the Sun Dagger site at Fajada Butte. The Cliff Palace in Mesa Verde is also a site for observing the major lunar standstill. Midwesterners have a curious site in their region. Serpent Mound winds through forest in Adams County, Ohio. The mound is enclosed in a 700 x 1000 foot area. It appears to show a snake about to ingest an egg. Bends in the serpent point to the sunrise at Winter Solstice, Equinoxes, and Summer Solstice. The serpent's head points at the Summer Solstice sunset. The egg may represent the Sun, disappearing in a total solar eclipse. There were eclipses in the area in 250 CE and 1070 CE. Plains Native Americans were also conscious of the sky. Pawnee earth lodges face East. A Pawnee Sky Chart from the 1700s shows several patterns familiar to modern observers. The Big Dipper, Little Dipper, Polaris, and Pleiades are evident. Coloradans are fortunate to have many sites nearby for their study.

NCAS Business, February 3 2005

President Greg Halac called the meeting to order. The treasurer's report was given by Nate Perkins. Public events were announced for February 2005. Bryce Canyon National Park is seeking volunteers for astronomy programs for 1 to 6 month terms. Members were reminded about Comet Machholz. After the program, members got a look at Saturn, the Orion Nebula, and Comet Machholz.

Observing Report from Cactus Flats North, from Dave D

Cactus Flats North & Pawnee Buttes
Feb. 4/5, 2005

My weekend "observing" actually started Thurs. night with a great talk By Dr's. Steve & Irene Little giving a presentation on Archeoastronomy at the NCAS monthly meeting. I find the ancient history of astronomy very interesting, how important it was to survival then. Dr. Dan Laszlo also set up his 18" Obsession in the parking lot for some Saturn views. With all the weather and Clear Sky Clock forecasts looking great I was really up for a night of observing and headed out to CFN with time to set up before dark. True to form as soon as the sun set the temps dropped fast, settling to a tolerable 25degF by 20:00. It didn't take long to see that the forecast for excellent seeing was going to hold up as Saturn was sharp at medium powers (125X) and continued to get better as the evening progressed. By 18:00 Rigel was cleanly showing its companion telling me my mirror was at optimum operating temperature so in went the Binoviewer and a pair of EP's

giving me 300X. The view of Saturn was holding steady 70% of the time with long moments of excellent seeing. A very quick hour passed by enjoying the fantastic sights including several bands on the atmosphere along with the olive colored polar cap. The Crepe Ring took on an radiance similar to fine glitter with a clearly defined inner edge. At those best times the disc of the planet could be seen thru the Cassini Division. Another indication of when the transparency is high is the view of M42, this night it showed all its best. Under ideal conditions I can see much more color in the nebulosity than normal. Tonight the area right around the Trapezium glowed a bluish green but just outside this everything else took on a ruddy crimson glow, it reminds me of the deep rose color of a nice Pino Noir. The E and F stars of the Trapezium had lots of clean separation from the other 4 main stars, though I have seen H before I didn't try for G and H tonight but the conditions were right for an attempt. Switching to a low power EP I moved the scope over to IC434 to try for the Horse head (B33), without a filter it could be barely seen and switching to a H-Beta filter made it much more obvious. Taking a break I walked around to the other 6 scopes set up to see what sights everyone else was enjoying. Bill P. usually is chasing down some faint Galaxy and was working a list of tough ones. Bill T. was going around asking if anyone noticed something in the vicinity of the sickle of Leo and Cancer. In separate query's he was getting the same response, a faint round glow was seen by all which turned out to be the Gegenschein! A glow directly opposite the Sun that is its reflection on Solar system dust. Definitely a first for me, apparently there was also a nice display of the Zodiacal Light but I missed it while observing Saturn. My observing sessions consist mostly of working thru lists that I generate or download off the WWW. Tonights list came from the Royal Astronomical Society of Canada, a list of 45 deep sky challenge objects. Highlights were Abell 12, PN in Orion and Abell 1367, a Galaxy cluster on Leo that was better in Bill's 20" later in the evening. By 00:30 after going from obscure to common objects for several hours it was becoming difficult to remember coordinates walking from the table to the scope so one more round of Saturn and some bright M's I called it a night and headed home around 01:00. Saturday I was still flying high from the night before and headed out to Pawnee Buttes in the early afternoon. Wanting to get some sunset pics of the Buttes my plan was to head over to CFN afterwards. I decided to stay there as it didn't look that good with the high clouds to do some observing. If you have never been out to Pawnee Buttes it offer an interesting geological window into the plains. There are several trails for hiking as well as lots of bird watching opportunities. I set up in the lower wash area near the east trail head, there is a large flat field with no cactus similar to CF inside the gate. With the bluff looming 150' over me to the S/SW the Denver nebula was cut off nicely allowing my eyes to get dark adapted quickly. It is probably as dark or a little darker that Sterling, I think we should plan to do a weekend out there maybe in March? With the clouds I didn't stay too long and the seeing not being as good as Fri. night I only observed for a few hours then headed home. I almost stopped by CFN and now wish I would have.

Till next time, DD

Star Party List

A comprehensive listing, by month and state, of all the major U.S. Star Parties for amateur astronomers can be located at <http://www.chartmarker.com/>
Please contact us at chartmarker@cox.net if we missed any. If you sponsor a Star Party, send us your dates and URL so we can update our list. We will also list and link to selected special events in the Southwest area on our homepage. Send information about your event and URL for a listing.
Pat and Arleen Heimann
ChartMarkers and More

Best Looks

Moon	By Mars 3/5, 6; by Mercury 3/11 By Saturn 3/18,19 ; Near Jupiter 3/26
Mercury	Low in W 1 st 3 weeks soon after sunset
Venus	Difficult near Sun
Mars	Low in SSE at dawn
Jupiter	In S predawn.
Saturn	High late in evening

Scope for sale

Complete Nexstar 9.25 GPS with XLT coatings, carbon-fiber OTA, purchased in November, 2003. Under warranty. Selling to invest in a large dob. Plus flex dew shield, 2 in TV visual back and 2 in TV diagonal, Bob's Knobs; plus all the 1 1/4 inch accessories including the full 1 1/4 inch EP kit, HC "wing" that mounts on fork arm; tripod. Scope has been used many times, works well. Includes dust on corrector, and no doubt you'll find cosmetic scratches if you look hard but nothing you'll mind as long as you recognize that this is a used scope! The LCD unit of the HC is slightly loose in its housing. I sometimes get the slow slews and failure to level discussed in Nexstar Yahoo group, apparently fixed with download of new firmware but I'll leave that up to you. Right now alignment and GoTo are right on and this scope will be in monthly new moon use until sold (and that's when I send my deposit to Obsession!). Will ship in original box/foam at your expense, or meet within a couple hundred miles of Boulder, CO. \$1500. Email bill.travis@att.net

From: Dan Laszlo
2001 S Shields St Building H
Fort Collins CO 80526

TO:

International Space Station Passes for Loveland - Fort Collins

March 2005

Date	Mag	Start Time	Alt	Az	Max Altitude Time	Alt	Az	End Time	Alt	Az
27 Feb	1.0	04:42:55	31	NE	04:42:55	31	NE	04:45:18	10	E
28 Feb	-0.9	05:10:33	60	WNW	05:10:58	76	SW	05:13:54	10	SE
01 Mar	0.8	05:38:18	18	WSW	05:39:03	20	SW	05:41:17	10	S
02 Mar	2.0	04:34:27	14	SE	04:34:27	14	SE	04:34:57	10	SE
05 Mar	1.9	19:12:45	10	SSE	19:12:51	10	SSE	19:12:51	10	SSE
06 Mar	1.0	19:39:28	10	SW	19:40:56	25	SSW	19:40:56	25	SSW
07 Mar	1.0	18:33:07	10	S	18:35:14	18	SE	18:37:05	11	E
07 Mar	1.9	20:07:37	10	WSW	20:08:49	21	W	20:08:49	21	W
08 Mar	-0.8	19:00:08	10	SW	19:03:06	68	SE	19:04:47	23	ENE
09 Mar	0.7	19:28:24	10	W	19:31:09	35	NNW	19:32:18	25	NNE
10 Mar	-0.8	18:20:44	10	SW	18:23:41	85	SSE	18:26:42	10	NE
10 Mar	1.8	19:57:25	10	WNW	19:59:29	17	NNW	19:59:39	17	NNW
11 Mar	0.9	18:49:05	10	W	18:51:47	30	NNW	18:54:29	10	NE
12 Mar	1.9	19:18:09	10	WNW	19:20:04	16	NNW	19:21:58	10	NNE
13 Mar	2.3	19:47:39	10	NNW	19:48:30	11	N	19:49:13	10	N
14 Mar	2.0	18:38:48	10	NW	18:40:33	14	NNW	18:42:18	10	NNE
15 Mar	2.2	19:08:15	10	NNW	19:08:56	11	N	19:09:37	10	N
16 Mar	2.1	19:36:37	10	N	19:37:22	11	N	19:38:05	10	NNE
17 Mar	2.0	20:03:53	10	NNW	20:04:51	13	N	20:04:51	13	N
18 Mar	2.0	18:56:44	10	N	18:57:39	11	N	18:58:33	10	NNE
18 Mar	2.5	20:31:12	10	NW	20:31:36	13	NNW	20:31:36	13	NNW
19 Mar	1.5	19:23:56	10	NNW	19:25:54	16	NNE	19:26:41	15	NE
20 Mar	0.7	19:51:13	10	NW	19:53:26	29	N	19:53:26	29	N
21 Mar	1.3	18:43:53	10	NNW	18:45:59	17	NNE	18:48:05	10	ENE
21 Mar	1.5	20:18:44	10	NW	20:20:13	26	WNW	20:20:13	26	WNW
22 Mar	0.1	19:11:08	10	NW	19:13:55	36	NNE	19:15:22	22	E
22 Mar	2.8	20:46:53	10	W	20:47:02	11	W	20:47:02	11	W
23 Mar	-0.6	19:38:40	10	WNW	19:41:36	64	SW	19:42:14	47	SSE
24 Mar	1.7	20:06:57	10	W	20:09:00	17	SW	20:09:11	17	SW
25 Mar	-0.1	18:58:30	10	WNW	19:01:24	52	SW	19:04:17	10	SE
26 Mar	2.1	19:26:59	10	W	19:28:42	14	SW	19:30:24	10	SSW
28 Mar	2.5	18:47:04	10	WSW	18:48:17	12	SW	18:49:30	10	SSW