

The Objective View

Newsletter of the Northern Colorado Astronomical Society

July 2007

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Cheyenne Astronomical Society, Cheyenne Botanical Garden

July 20 9 pm NM Observatories, Robert Roten, LASSO
<http://home.bresnan.net/%7Ecurranm/index.html>

Chamberlin Observatory Open House, dusk to 10 pm

Jul 21, Aug 18, Sep 22, Oct 20, Nov 17 303 871 5172
<http://www.du.edu/~rstencil/Chamberlin/>

Longmont Astronomical Society July 19 7 pm

FRCC, 2121 Miller Rd <http://longmontastro.org/>

June 7 Program

Solar Eclipse Reminiscing

Dr Richard Dietz, University of Northern Colorado

Next Meeting: July 5 7:30 PM

New Developments in Solar Physics

Craig DeForest, Southwest Research Institute

Discovery Science Center

703 E Prospect Ave, Fort Collins

Club business at 7:15 pm

Meeting directions:

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. From I-25, take Exit 268, West to Lemay Ave, continue West 1/2 mile, see Discovery Science Center on the left.

NCAS Programs

August 2

Rocky Mountain National Park Starwatch

Remaining dates for 2007 are July 6 & 20; Aug 3 & 17. Site is the end of the Upper Beaver Meadows Road.

Bobcat Ridge Starwatch July 11

Bobcat Ridge is just south of Masonville. Directions to the site can be found at <http://fcgov.com/naturalareas/bobcat.php>

Other Events

Little Thompson Observatory Star Night: July: closed
Aug 17 7:30 pm <http://www.starkids.org>

CSU Madison Macdonald Observatory Public Nights

On East Drive, north of Pitkin Street

Tuesdays 8 pm if clear, when class is in session

Dick is not one to sit still for long. He trained at Caltech and University of Colorado, Boulder, and is an active mountaineer. He has collected 300 of Colorado's peaks. He has traveled to 15 central eclipses. He was able to view 10 of 11 possible total solar eclipses, only 1 rainout in Florida in 1970. He asked members to note eclipses they'd seen, and he could recall the circumstances given the date. He has yet to see a photo that does justice to the intensity of the direct view. Totality is terribly short. In the recent eclipses he's seen, he has used a video camera and tried to capture details in the corona and chromosphere. He attended eclipses in 1963, 1966, 1970, 1973, 1979, 1991, 1994, 1998, 1999, 2001, and 2006. He went to annular events in 1973, 1992, 1994, but was clouded out in Iceland in 2003. He took 4 busloads of UNC students north to Montana in 1979. Photography is forgiving in a way: almost any exposure will catch something. Shot with a solar filter, a sliver of sun shrinks away. The Diamond Ring effect is seen with a patch of photosphere set on the corona. Bailey's Beads are glints between lunar mountains on the rim. His first attempt to videotape in Peru did not work, but he did get to watch the whole event with his Questar. In Turkey in 1999 he caught a nice coronal loop. He had best results in Zambia in 2001. He had a nice shot of Bailey's Beads. He switched to a more sensitive camera since then, and is recording more corona, but the prominences are washed out. He uses a Questar 3.5 and a Supercircuits camera, recording to 8mm videotape. He brought a PBS tape of the 2006 eclipse in Libya. Observers came from 145 countries to create a tent city in the desert. Electricity and running water were available. The site teemed with vendors. The next eclipse is when? There is a 2+ minute event in Siberia. Next is July 22 2009 in China which is tempting, available to residents of Shanghai. In 2010, Easter Island is in the path. Events in Colorado were in 1806, in Fort Collins in 1878, in Denver in 1918. The path is nearby through Casper WY on Aug 21 2017. Observers should not miss eclipse opportunities. They are rare, unsurpassed events.

NCAS Business, June 7 2007

President Nate Perkins called the meeting to order. The meeting schedule and observing nights were announced.

Treasurer Bob Michael reported the club treasury at \$672. Tom Fay has a 10" Meade Starfinder for sale, with equatorial and Dob mounts.

From Dr Roger Culver

**Astronomical Photometry Workshop
Global Network of Astronomical Telescopes, Inc.
Techniques and Research Opportunities for Students
27-29 July 2007**

GNAT has created a very large database of thousands of its newly discovered variable stars and other celestial objects. Because of their dynamic behavior these stars have proven to offer particularly good opportunities for unique and rewarding student follow-up projects.

GNAT has developed an evolving program of providing proprietary data, guidance and mentoring support for both teachers and students as a part of its active education and public outreach efforts. Students in high school, community colleges, four-year colleges and graduate schools have benefited from access to GNAT data.

This program is valuable for both science and non-science majors, and has generally led to student authorship and publications for inclusion in their resumes. Students not only achieve a better understanding of how science works in the world around them, but they usually acquire skill sets, contacts and resume addenda that enhance both school and job applications.

This workshop is a convenient chance for educators, scientists, and students to learn about tools, resources, publication opportunities and research projects.

Come and learn how to apply the tools to which you may already have access, or to use the resources that GNAT can make available. See first hand the excitement that students experience as they see physical events unfolding in their own stellar observations, or as they uncover for the first time the secrets of the behavior of pulsating or eclipsing stellar systems.

There is not charge for the workshop, but space is limited so please contact Dr. Roger Culver at gnat (at) lamar.colostate.edu to confirm attendance.

From Mike Prochoda: Rocky Mountain Star Stare 2007

Hello all:

I arrived on Thursday afternoon (6/14/07) to partly-cloudy skies with a lot of high cirrus haze. I set-up my campsite and refractor in the middle of the observing field (well away from the dusty roads) but had to park my car back along the main road according to a brand-new rule the forest rangers are enforcing about cars not being allowed off the main roads. Fortunately, they allowed us to drive out onto the observing field to at least unload our heavy equipment. This issue was an

inconvenience for everyone, and I trampled a lot of plants walking back and forth a couple dozen times between my campsite and my car (where the food was stored). I don't understand the forest ranger's reasoning on not allowing us to park on the observing field - it certainly didn't prevent wear and tear on the vegetation! Also, the actual space allotted to RMSS by the forest service was markedly smaller than in the past, which made for very crowded parking conditions. Fortunately the observing field was large enough that there was plenty of "breathing room" for our telescopes. Many participants chose to setup next to their cars (and the road) and I saw plenty of scopes with a heavy coating of road dust on them during my 2 days at the event. Hopefully by RMSS 2008 the Colo. Spgs. Astro. Society will have acquired their own private land for RMSS, so we will no longer be at the mercy of the forest rangers and their ever-increasing rules!

Thursday night (6/14/07) looked promising near dusk, but the cirrus cloud cover steadily increased after dark, until only 2nd magnitude stars were visible through the haze by midnight. It never cleared further that night. Fortunately, the seeing was rock-stable (I estimate Pickering 7-8 on a 1-10 scale), so for double star and planetary observers, all was not lost. I got some excellent views of Jupiter! The GRS transited about 10:45 PM on Thursday, and so we were presented with some excellent views of this giant storm system. I also observed several pretty and tight double stars that evening. Unfortunately, with increasing cloud cover came heavy dew, and by 12:30 AM I could no longer keep my eyepieces free of dew. I called it a night, and I didn't see any other red lights or hear any whirring mount motors on the observing field when I threw in the proverbial towel just before 1:00 AM.

Friday morning (6/15/07) started partially cloudy, but then cleared to a beautiful blue sky. Unfortunately, by mid-afternoon heavy thunderclouds rolled in, and we had a couple of brief rain showers. Things started looking promising again near nightfall, but then the high cirrus haze started thickening again. By the end of twilight only 3rd magnitude stars were visible through the pea soup. However, the seeing was stunning! I rated it Pickering 8-9, which is some of the steadiest seeing I have ever witnessed along the front range. Jupiter presented a crisp disc with amazing detail visible in the belts and zones, including festoons, ovals, barges, and streaks in the belts. The disc was always razor sharp and crispy without the usual only fleeting and brief moments of seeing that I am used to. The haze affected the contrast however, so the view could have been even better with clearer skies.

Besides Jupiter, I observed and logged over two-dozen double stars on Friday night - some near the theoretical resolving limit of my 140 mm Apo refractor. I observed Porrima (Gamma Virginis) as an elongated "bar" (with the correct PA orientation) at 245x for the first time since periastron. Prior to tonight, it had always appeared as a single star to me for the past few years. Unfortunately, the highest power eyepiece I had brought along with me was my 4 mm Radian (which gives me 245x). I rarely can ever use any higher powers with my Apo refractor when observing along the front range (due to the

typical mediocre seeing conditions we have here). Antares (Alpha Scorpii) was cleanly split at 122x and was easy at 163x. Antares' primary showed a gorgeous orange Airy disc with the tiny green companion star just to the West of the primary, and outside the Airy rings. The standard showpiece doubles such as Izar (Epsilon Bootis), Alpha Herculis, and Delta Cygni were widely split with beautiful Airy discs and full Airy rings around the brighter stars. As a test of the seeing (and my scope) I was able to split (just barely) a 0.8 arc-second pair (Zeta Bootis) which has 4.5 and 4.6 magnitude components.

By 2:00 AM Saturday morning, the hazy high clouds were beginning to dissipate some, but the dew was almost as thick as rain. I could see 5th magnitude stars naked-eye at the zenith, but my equipment was dripping wet, and though my objective was still going strong, my eyepieces, red-dot finder, and Sky Commander LCD were totally obscured with dew (despite almost completely depleting my 35 Amp-Hr. AGP battery by using a 12v dew gun over a half-dozen times on the eyepieces that evening). I had heard no sounds nor seen any red lights on the observing field for well over an hour when I packed it in for the night at 2:30 AM early Saturday morning.

Saturday morning after sunrise (6/16/07) cleared rapidly to a clear blue sky once again. The temperature climbed rapidly, and we were treated to a couple of dust devils - one of which destroyed my shade canopy (it stayed anchored to the ground, but was twisted into a mayhem of metal due to the strong wind which tore the canopy top clear off). These suckers should be rated at F 0.3 or something like that on the Fujita tornado scale! They definitely can do some serious damage! Someone found my heavy observing coat (which I had stored under the canopy) almost 100 yards away. By all accounts I didn't lose anything besides the canopy itself (I mostly had heavy cases and equipment stored under the canopy). Unfortunately, heavy thunderclouds rolled in once again that afternoon, and we had several brief spells of rain. By the Saturday afternoon swap-meet and the evening door prize giveaway, it had rained at least 3 times, with heavy cloud cover persisting. By sunset it was totally overcast with ominous and threatening lightning storms, so I packed up my equipment and headed back to Estes Park. I decided that another night of battling clouds and surely some dew wasn't worth it - even if it cleared later on (especially since my AGP battery for my dew removal system was pretty much dead).

On my drive home (starting at 8:30 PM) it rained almost constantly between RMSS and Colorado Springs. The skies cleared as I headed North on I-25 and I was treated to pristine clear and dark skies when I arrived home in Estes Park at Midnight. Unfortunately I was too pooped from the long drive to setup my scope to observe, so I called it a night.

I don't know what the consensus on observing at RMSS 2007 will be by other observers, but for me it was not a total bust. Excellent seeing allowed me to get the best views of Jupiter I have had to date during this apparition, and I logged over 2 dozen double stars - many of which I had never split before.

Even the "showpiece doubles" were more beautiful than I have ever seen them in the past. As far as deep-sky observing goes - it was a total bust by all accounts. I cannot comment on the observing conditions late Saturday night into Sunday morning, but it looked quite doubtful when I left. As always, the outdoor camping, comradery and astro-banter was well worth the trip even if the weather didn't cooperate. We had some great vendors including Tele-Vue, Durango Skies, Blue Star.com, and S&S Optika at RMSS 2007, so I got to check-out some neat new astro-equipment, books, and maps. Randy Cunningham of AstroSystems was there also (but to observe - he didn't work as a vendor). Too bad for Randy - the one time he was free to get some observing in, the weather doesn't cooperate!

I hope that those who headed out to Fox Park, RMNP, Cactus Flats, or the DAS site this past weekend had better luck! Please post your observing conditions or observing reports to this group!

-Here's hoping for clear skies and steady seeing at WUTS 2007, and Okie-Tex 2007!
- Mike Prochoda (Estes Park)

From Andrea Schweitzer

Virtual reality and participatory exploration
by Jeff Foust
Monday, June 25, 2007
<http://www.thespacereview.com/article/896/1>

Excerpt:

NASA's best-known foray into this area has been its presence in Second Life, an .online digital world. in the words of its developer, Linden Lab. Second Life is one of a number of online multiplayer games that have become popular in recent years, but unlike other such games, there are no specific adventures to undertake, battles to fight, or worlds to conquer. Instead, it's more of an unstructured environment where people can explore, interact with others, build (and buy and sell) all sorts of items, and, whatever else one might do in ordinary life, and then some. NASA's Collaborative Space Exploration Laboratory (CoLab) has its own presence, or .island., in Second Life, that's used to host meetings and as a technology testbed of sorts.

From: Daniel Laszlo
2001 S Shields St Bldg H
Fr Collins CO 80526

TO:

From Paul Robinson: ISS + Atlantis June 19 2007

Last night's ISS/shuttle display was on time as predicted (sure is nice to have an internet site like heavens-above.com!). The ISS was in the lead and looked very orange as the wide double star rose. I observed from the NCAR Mesa Lab overlooking Boulder. I put the ISS magnitude at -2, a bit dimmer than Jupiter. Oddly the orange color went away as it rose and both appeared whitish overhead. I do not think the orange color was an atmospheric phenomenon since the Shuttle, which was lower, was not at all orange. Very strong color contrast as they rose.

Best Looks

Moon By Mars 7/9 By Saturn 7/16
By Venus 7/17, by Antares + Jupiter 7/24 and 25
Mercury Low in E predawn last half of month
Venus Brilliant in W at dusk. 0.8 deg from Saturn 7/1
By Regulus 7/12 and 13
Mars In E predawn
Jupiter Low in S evenings
Saturn Low in W at dusk
Uranus In S middle of night
Neptune In S middle of night

Click on the date to get a star chart and other pass details.

Date	Mag	Starts			Max. Altitude			Ends		
		Time	Alt.	Az.	Time	Alt.	Az.	Time	Alt.	Az.
14 Jul	-0.9	05:10:42	10	SSW	05:13:11	29	SE	05:15:40	10	ENE
16 Jul	-0.8	04:17:01	19	S	04:18:04	24	SE	04:20:26	10	ENE
17 Jul	-2.5	04:36:04	21	SW	04:37:46	85	SE	04:40:34	10	NE
18 Jul	-0.0	03:23:51	17	ESE	03:23:51	17	ESE	03:25:01	10	E
18 Jul	-1.1	04:55:02	10	W	04:57:36	32	NNW	05:00:11	10	NE
19 Jul	-2.1	03:42:44	61	E	03:42:44	61	E	03:45:13	10	ENE
19 Jul	0.0	05:15:39	10	WNW	05:17:35	17	NNW	05:19:32	10	NNE
20 Jul	-1.3	04:01:32	32	WNW	04:02:11	37	NNW	04:04:49	10	NE
21 Jul	0.6	02:49:06	15	ENE	02:49:06	15	ENE	02:49:43	10	ENE
21 Jul	-0.0	04:20:16	11	WNW	04:22:04	18	NNW	04:24:08	10	NNE
22 Jul	-0.2	03:07:46	27	NNE	03:07:46	27	NNE	03:09:19	10	NE
22 Jul	0.6	04:40:58	10	NW	04:42:04	12	NNW	04:43:11	10	N
23 Jul	-0.1	03:26:23	20	NNW	03:26:25	20	NNW	03:28:36	10	NNE

<http://www.heavens-above.com/PassSummary.asp?satid=25544&lat=40.585&lng=-105.084&loc=Fort+Collins&alt=1525&tz=MST>