

# The Objective View

March 2004

Newsletter of the Northern Colorado Astronomical Society

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there are no facilities so bring essentials. Call **Tom Teters**, [tomt@starmon.com](mailto:tomt@starmon.com), with questions about star party status or dates, 482-5702.

## Other Events

Little Thompson Observatory Star Night, Berthoud  
March 19 Star Night 7 – 10 pm  
<http://www.starkids.org>

Cheyenne Astronomical Society, Cheyenne Botanical Garden  
March 19 7 pm  
<http://home.bresnan.net/~curran/>

Open House, Chamberlain Observatory, dusk to 10 pm  
Mar 27, Apr 24, May 29, Jun 26 303 871 5172  
<http://www.du.edu/~rstencel/Chamberlin/>

Longmont Astronomical Society  
March 18 7 pm Longmont Christian School, 550 Coffman St  
<http://laps.fsl.noaa.gov/cgi/las.cgi>

## Global Net of Astronomical Telescopes Needs You

Dr. Culver has short-period variable star candidates which need monitoring. If you can contribute CCD images of selected 15<sup>th</sup> to 18<sup>th</sup> magnitude stars, please call Dr. Culver in the Physics Dept, CSU, 491-6206 for more information.

## February 5 Program

### Sommers-Bausch Observatory and 50 Years of Astronomy at the University of Colorado By Mr. Keith Gleason, Observatory Manager

Harvard astronomer Donald Menzel wished to tackle solar observing in the US. He was born in Leadville, Colorado, and the shortcomings of eastern skies were obvious to him. He contacted the Climax Molybdenum Mine, and received permission to place the High Altitude Station of Harvard College Observatory by Fremont Pass. His very bright graduate student Walter Orr Roberts assembled the Mark I Coronagraph in 1939, and soon began to operate it year round. In Denver in 1940, Mayme Sommers willed a portion of a trust fund to the University of Colorado. She wished to honor her husband, who was a geologist in the oil distribution business. Perhaps she was influenced by her attorney. E.R. Campbell was a CU board member. During WW II, Roberts observed the Sun and noted an association between a solar flare and radio interference. The US Navy secretly financed his work to learn more. Roberts was the first to see the solar-terrestrial connection. He met many influential people, which led to a boom in postwar science in Boulder. The war was bad for the Bausch Telescope in New York. Bausch had demands for military optics, no students to use telescopes, and the public had war worries, so they were not

**Next Meeting: March 4 7:30 PM**

## James Webb Space Telescope

**By Dr. Dennis Ebbets  
Senior Staff Scientist, Ball Aerospace**

## 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.

## Starwatch at Discovery Science Center

March 26	6:30 pm
April 23	6:30 pm
May 28	7:30 pm

## Rocky Mountain National Park Starwatching 2004

Site is the end of the Upper Beaver Meadows road, starting at dusk. Ranger Jeff Maugans plans to add New Moon weekends. Proposed Summer 2004 dates: June 11, 18, 25. July 9, 16, 23. August 6, 13, 20. Contact Dan Laszlo if you are interested as a volunteer, [djlaszlo@aol.com](mailto:djlaszlo@aol.com), 970 498 9226.

## NCAS Dark Sky Star Party Dates

**March 12, 13, 19, 20**

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. Our standard nights are the weekend of the New Moon, sometimes a weekend before and after. The site is now officially wheelchair accessible, but

observing. In 1946, the Bausch 10 1/2 inch telescope was offered to the University of Colorado. The University badly wanted the telescope, but were also ambivalent, since it meant a building project. They ultimately lied about their planned use of the telescope. They tried to build a facility for the Mark II Coronagraph. Then in 1947-8, funds from Mayme Sommers were finally available. The \$45,054 was not enough for a scholarship or chair endowment, but in 1949 Robert Sterns decided to use the money to build an observatory. The Sommers-Bausch Observatory took 3 years to build. Construction started in 1950. The stone building progressed, but then the dome skeleton sat uncovered for a year, as no aluminum was available. The Korean War used it all. Roberts, after 6 years, was down from the mountain. He was formulating the High Altitude Observatory headquarters in Boulder. Alan Shapley was a bigwig at the Department of Commerce. He wanted to build a time and frequency lab, and wanted to be near Roberts. The lab went from 1 to 8 people then. They set up in a WWII Quonset hut. The solar group sent Jack Evans to set up the observatory in Sunspot, NM, now Sacramento Peak Observatory. Sommers-Bausch Observatory finally secured the funds to finish by 1953. It made the cover of Sky & Telescope magazine for its first and last time. The photo hints at the unique slit design, with 10 doors. Observers hoped they could open a door or two and stay warmer. They soon realized that warm air poured through a tiny opening and made turbulent images. The slit was a mechanical nightmare with multiple microswitches, bushings and gears. Ice on the dome leads to blown fuses, or even torn sheet metal if students force the system. After 50 years, the slit is finally getting replaced. There was initial complaint about running power to the building so far from campus, but development has surrounded it now. When built, the Observatory had 50:50 split ownership between CU and Harvard College Observatory. In 1957, time of the International Geophysical Year, there was impetus to start up an independent department within CU. Hydrogen alpha observing with an 8mm movie camera was needed to catch solar flares. The department of Astro-Geophysics was born, named by Sidney Chapman. Soon Jack Eddy noticed the relationship between the Maunder sunspot Minimum, and carbon 12/carbon 13 ratios in tree rings. In the late 1950s, the football stadium was built, with attendant light pollution. In 1960, Research Lab 5 was constructed, the center for astronomy in Boulder. But, a lowly 10 1/2 inch telescope didn't cut it, so in 1973 the 24 inch Boller and Chivens telescope was eventually installed. A 24 inch telescope peering through a 36 inch slit was impractical, and the dome was nearly modified. Money instead went to a \$12,000 PDP-12 computer which was supposed to perform dome control. Keith recalls in 1975, a Teletype machine on a stand, to be used for instructions to the computer. The system had 720 index mirrors, and photodiodes which were supposed to respond to flashes and control the dome. A sign on the keyboard then said, "DOME ROTATION SYSTEM NOT FUNCTIONING." In 1979, it still was not. In 1999, Keith stumbled onto the Teletype machine in the basement, its sign still taped in place. After problems with an Ealing telescope, which they sent to the University of Denver, the 24 inch B&C scope was completed. The 10 1/2 inch went to Fiske Planetarium. In 1981, the Fleischmann addition was begun. A roll-off roof went on in 1986. The project cost \$360,000. It

quadrupled the size of the building. The 10 1/2 inch Bausch lens went to a Heliostat, and is now looking at the Sun as originally intended. There is an 18 inch DFM telescope, their first, on the observation deck. It used an 8086 8 bit computer. Keith was thrilled on the day it switched to an 80386. In 1985, he learned that Alan Shepard was visiting. A producer was making a show on Halley's Comet, he needed to shoot a trailer, and had persuaded Shepard to participate. Keith was delighted to have Shepard as a guest, and asked how Sommers-Bausch Observatory was selected. Shepard replied that he was skiing in Aspen, and they looked for the nearest observatory. SBO continues to change, photo labs are gone, replaced with computer labs. They have 16 inch and 18 inch DFM Cassegrains, and piers for other removable telescopes. The 16, 18, and 24 finally have similar controls, now with TheSky software. Keith is proud that he nagged Frank Melscheimer to produce control software with a color display. Alan Kiplinger now uses the 18 inch with a 6 inch stop, a high speed digital camera and polarizer. In a few seconds he has a complete polarization picture for the Sun. He alerts solar telescopes worldwide for flares. It is used for students and optical astronomy at night. A piggybacked 8" Meade with an ST-6 CCD, 20 second integration time gives a comparison image. The telescopes are used for "mass-produced astronomy," 1200 students have access per semester. 220 per semester are in introductory lab classes. The 24 inch is used by upper division students to learn instrumentation, and do a little research. One scope projects a 30 inch diameter solar image. A view of the solar spectrum stretched to 3 feet shows hundreds of absorption lines. He received \$10,000 for an instrument for public outreach. He made a solar telescope which simultaneously shows white light, H alpha, and the calcium K line. Keith encouraged members to visit on the many public outreach nights.

#### **NCAS Business, February 5 2003**

President Dan Laszlo called the meeting to order. The Putnam Elementary Starwatch served over 500 visitors, many first-time observers. Nate Perkins' telescope was featured in the Coloradoan newspaper article on the event. Max Moe announced upcoming NCAS programs. Gary Garzone invited members to share views in his 30 inch reconstructed with an AstroSystems Telekit, soon to be finished.

#### **Pawnee Grasslands on February 20, 2004**

A patch of stable air was forecast on the plains by the Clear Sky Clock. The weekend promised to be a good planet night. Saturn was pretty jittery out there the week before, due in part to a nagging 5+ mph wind all evening. I got a few faint objects in on Feb 13: the Horsehead, the Medusa Nebula, supernova remnant IC443 in Gemini, Leo galaxies, and a few old favorites in the Winter Milky Way. For Feb 20, I hoped for some great Saturn and Jupiter views, and some looks at showpieces in Gary's scope. Turnout was much better this time. Max and Ray Moe came by. Max eluded some late clouds to add to his planetary nebula list, this time with some GoTo aid. I got my 18 set up with Saturn high overhead, and spent most of the evening waiting for pristine moments. The image never totally lost the

high-speed jitters, but was good enough to enjoy at 480x. No camera this time. I never saw any structure within the A ring. The B ring showed its gradual shading, and the planet had its polar darkening and equatorial band. Clouds made even Saturn marginal, then cleared. I then did some galaxy hunting with Max and Ray, up to M81, M82, M64, NGC4656 and companions, M65 and M66 and NGC3628, M64, and NGC 4565. Gary was galaxy hunting again by then, so I went by for great views, especially a field-filling M51 and its bridge to companion, NGC4565 and globular cluster M3 (it's full of stars). Saturn was low enough to suffer in the seeing, but Jupiter was pretty decent.

Dave Dunn and Steve Lynch shared a look at M104. Dave had tracked down the new McNiel's Nebula earlier. I then returned to my own scope and got Jupiter to reveal some irregularity in the equatorial belts, no Red Spot at that hour unfortunately. My drive home was lit by a -4 magnitude meteor to the South at 0118, flickering through the clouds over Denver.

Cheers,  
Dan Laszlo

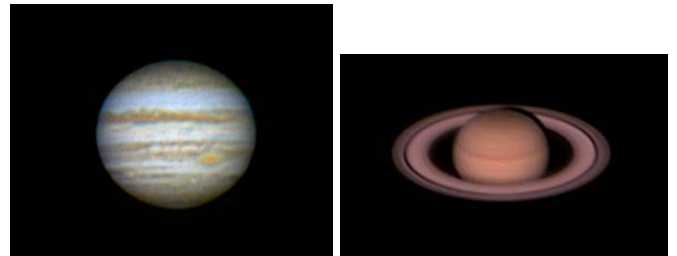
New moon star party at Pawnee with the new AstroSystems 30 scope was great. Wow!! is how good Saturn was for a time, then Jupiter, we could see the festoons in belts very clearly. Huge turn out of people. The old Dark Sky Marines, Dave D, Steve L, Dan L, Bill T and his Daughter Katie, William P, Mike H, Ray and Max M, and another Dave and several others I do not know your names.

I got to Pawnee after dark so first light and first scope set up in the dark. Randy the truss length needs to be shortened only about 1/2 inch. I will fix Sunday or tonight yet. I could not reach focus after set up then kept trying different eyepieces. the 50 mm plossl and 32 erfle and 16 Nagler did focus, rest needed to get racked in more so no views thru most of my eyepieces.

My very first look and view thru new scope with new mirror coatings was tuff choice but with Orion nebula being old favorite and in good position got several votes from friends. You have not seen Orion nebula till you seen it with 30 inches of aperture, very good. Galaxies-are-us with big mirror so NGC891, 4565, 5709, old edge on favorites, Whirlpool M51, M101, and M81, 82 and so many more were just great. Globular clusters always awesome in large aperture, so we did several, M13, M92, M3, and more. Temperature was very cold with low of 17 degrees and when Dave Dunn left about 1:30 am it was 19 on his thermometer. I took several pictures, no surprise hey, so here are a few. Between Steve L's command post and mine kept us from freezing. I stayed the night along with Bill T and Steve L.

I will have another first light, or should I say second light star party here in my yard soon for rest of gang that could not make Pawnee. I will send out an email. Bye, gary

## Recent Planet Images from Brian Kimball



### From Dave Larison: Grand Mesa Star Party July 15-18

Aaron Reid from the Grand Junction club sends news that plans are progressing for a regional star party on top of Grand Mesa scheduled for July 15-18, 2004.

A weblink for the event is now up:

<http://www.coloradowestastronomy.org/SP04.html>

Although it's a long drive for Front Range folks, the site and event sounds very appealing... (Dave L.)

In a message dated 1/8/2004 4:04:34 PM Mountain Standard Time, somestarguy@acsol.net writes:

>Dave,

>...Our strategies are to have primitive camping, plenty of space for that, on the RMSS size scale, and we are providing a >bunch of porta-potties, as well as talks, a single catered >meal is possible, and on the Mesa are some >campgrounds/fishing depending on a person's picking. Several members have camp trailers, myself included, and we will, set up a Gazebo, type deal for the programs. Mainly, it's >where the stars are! Our board meeting is a week from now >on the 15th and we will update the website then as well.  
>Aaron

### Binoculars for Sale

11x80 binoculars in excellent condition, with caps and case. \$145. Contact [REScline@aol.com](mailto:REScline@aol.com)

### URL for Clear Sky Clocks for Colorado

[http://cleardarksky.com/csk/prov/Colorado\\_clocks.shtml](http://cleardarksky.com/csk/prov/Colorado_clocks.shtml)

### Best Looks

Moon	By Jupiter 3/5,6 By Mercury 3/21 By Venus 3/24 By Mars 3/25 By Saturn 3/28
Mercury	In West at dusk, last half of month
Venus	High in West at sunset
Mars	In W after sunset
Jupiter	High in S midnight
Saturn	Near overhead in evening

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

**TO:**

Date	Mag	Starts			Max Altitude			Ends		
		Time	Alt	Az	Time	Alt	Az	Time	Alt	Az
29 Feb	1.8	04:59:04	13	N	04:59:04	13	N	05:00:21	10	NNE
01 Mar	2.1	05:29:35	10	NNW	05:30:16	11	N	05:30:56	10	N
02 Mar	2.1	06:00:26	10	NNW	06:01:43	12	N	06:03:00	10	NE
03 Mar	2.2	04:55:52	10	N	04:56:28	10	N	04:57:07	10	NNE
04 Mar	2.0	05:26:15	10	NNW	05:27:48	13	NNE	05:29:21	10	NE
05 Mar	2.4	04:22:57	10	NNE	04:22:57	10	NNE	04:23:17	10	NNE
05 Mar	1.4	05:56:27	10	NNW	05:58:58	22	NNE	06:01:27	10	E
06 Mar	2.0	04:52:24	12	NNW	04:53:43	15	NNE	04:55:31	10	NE
07 Mar	1.1	05:22:03	10	NW	05:24:41	27	NNE	05:27:23	10	E
08 Mar	1.9	04:19:32	16	NNE	04:19:32	16	NNE	04:21:30	10	ENE
<b>08 M</b>	<b>-0.7</b>	<b>05:52:23</b>	<b>10</b>	<b>NW</b>	<b>05:55:27</b>	<b>85</b>	<b>NE</b>	<b>05:58:27</b>	<b>10</b>	<b>SE</b>
09 Mar	0.8	04:49:06	24	NNW	04:50:17	34	NNE	04:53:07	10	E
10 Mar	2.8	03:46:54	12	ENE	03:46:54	12	ENE	03:47:15	10	ENE
<b>10 M</b>	<b>-0.8</b>	<b>05:18:45</b>	<b>18</b>	<b>WNW</b>	<b>05:20:52</b>	<b>68</b>	<b>SW</b>	<b>05:23:51</b>	<b>10</b>	<b>SE</b>
11 Mar	1.1	04:16:40	31	E	04:16:40	31	E	04:18:37	10	ESE
11 Mar	1.0	05:48:57	10	W	05:51:04	17	SW	05:53:10	10	S
<b>12 M</b>	<b>-0.1</b>	<b>04:46:36</b>	<b>42</b>	<b>S</b>	<b>04:46:36</b>	<b>42</b>	<b>S</b>	<b>04:49:01</b>	<b>10</b>	<b>SE</b>
13 Mar	1.5	05:16:42	12	SW	05:16:42	12	SW	05:17:35	10	SSW
15 Mar	1.8	19:33:30	10	S	19:33:54	12	S	19:33:54	12	S
16 Mar	1.4	20:02:54	10	SW	20:04:10	23	SW	20:04:10	23	SW
17 Mar	0.2	18:57:57	10	SSW	19:00:35	29	SE	19:02:18	17	E
17 Mar	2.5	20:33:29	10	W	20:34:10	15	W	20:34:10	15	W
<b>18 M</b>	<b>-0.5</b>	<b>19:27:37</b>	<b>10</b>	<b>WSW</b>	<b>19:30:38</b>	<b>68</b>	<b>NNW</b>	<b>19:32:04</b>	<b>27</b>	<b>NE</b>
19 Mar	1.4	19:58:19	10	W	20:00:52	24	NNW	20:01:35	22	N
20 Mar	0.1	18:52:14	10	WSW	18:55:10	50	NNW	18:58:08	10	NE
20 Mar	2.4	20:29:40	10	NW	20:30:53	13	NNW	20:30:53	13	NNW
21 Mar	1.7	19:23:01	10	WNW	19:25:23	20	NNW	19:27:44	10	NNE
22 Mar	2.3	19:54:24	10	NW	19:55:46	12	NNW	19:57:08	10	NNE
23 Mar	1.8	18:47:35	10	WNW	18:49:44	18	NNW	18:51:54	10	NNE
23 Mar	2.4	20:25:46	10	N	20:26:01	10	N	20:26:01	10	N
24 Mar	2.3	19:18:58	10	NNW	19:20:05	11	N	19:21:12	10	NNE
25 Mar	2.3	19:49:57	10	N	19:50:29	10	N	19:51:02	10	NNE
26 Mar	2.3	18:43:22	10	NNW	18:44:14	11	N	18:45:06	10	N
26 Mar	2.1	20:19:16	10	NNW	20:20:16	13	N	20:20:16	13	N
27 Mar	2.2	19:13:51	10	N	19:14:34	11	N	19:15:16	10	NNE
27 Mar	2.6	20:48:28	10	NNW	20:48:49	12	NNW	20:48:49	12	NNW
28 Mar	1.7	19:43:00	10	NNW	19:44:47	14	NNE	19:45:34	13	NE
29 Mar	1.2	20:12:08	10	NW	20:14:04	24	N	20:14:04	24	N
30 Mar	1.5	19:06:34	10	NNW	19:08:34	16	NNE	19:10:33	10	ENE
30 Mar	2.0	20:41:28	10	NW	20:42:34	20	NW	20:42:34	20	NW
31 Mar	0.4	19:35:39	10	NW	19:38:24	33	NNE	19:39:17	27	ENE
<b>01 Ap</b>	<b>-0.6</b>	<b>20:04:58</b>	<b>10</b>	<b>WNW</b>	<b>20:07:48</b>	<b>70</b>	<b>WSW</b>	<b>20:07:48</b>	<b>70</b>	<b>WSW</b>
<b>02 Ap</b>	<b>-0.0</b>	<b>18:59:00</b>	<b>10</b>	<b>NW</b>	<b>19:01:52</b>	<b>40</b>	<b>NNE</b>	<b>19:04:34</b>	<b>11</b>	<b>ESE</b>