The Objective View

November 2007

Newsletter of the Northern Colorado Astronomical Society

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Next Meeting: November 1 7:30 pm

Show and Tell by Members

Bring an item or tale to share

Club Business at 7:15 pm

Discovery Science Center
703 E Prospect Ave, Fort Collins

http://www.ncastro.org/Sites/DiscoveryCtr.htm

NCAS Programs

Dec 6 Mike Hotka Astro League Observing Targets

Discovery Science Ctr Starwatch, 703 E Prospect, Ft Collins

Nov 16 6 pm
Jan 12 5:15 pm

Dark Sky Observing Opportunities, Roland's Astro Corral

Nov 3, 10
http://www.ncastro.org/Sites/Pawnee-RAC.htm

Thanks to Gary Garzone for his legwork!

Other Events

Little Thompson Observatory Star Night:
Rich Reinert Ball Aerospace Extrasolar Planets
Nov 16 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

Cheyenne Astronomical Society Nov 16 7 pm
http://home.bresnan.net/~curranm/

Chamberlin Observatory Open House, dusk to 10 pm
Oct 20, Nov 17, Dec 15, Jan 12, Feb 16 303 871 5172
http://www.du.edu/~rstencel/Chamberlin/

Longmont Astronomical Society Nov 15 7 pm
FRCC, 2121 Miller Rd http://longmontastro.org/

October 4 Program
Skygazing in Australia, by Greg Halac

A balancing act was in store for Greg's trip to Australia. Objectives for his family unit were views of Sydney, the Great Barrier Reef, and Ayers Rock. Prospects of observing the Southern Milky Way in the outback were too good to pass up, so Greg pondered telescope options. He wished to limit his driving in left-drive vehicles, make the most of a first time trip, and did not know anyone in country. Views from Sydney were typical metro area, and a 3 hour drive to their dark sites was not in the cards. Australian star parties were not routine in the winter, June to August. The Great Barrier Reef is next to rainforest at their site. So he focused on the outback. Would binoculars suffice, or would a scope be needed? He felt the dark skies by Ayers Rock, 5 hours from major cites, could really use a scope. He looked at small refractors in the 3 or 4 inch range. The cost per aperture was daunting. He then looked a number of travel dobsonian designs. A Johnsonian 10 inch was offered by Scopes 4 Rent.com for $450. He would be responsible for replacement if damaged however. Greg is experienced with a C8 and Telekit Dobsonian. He preferred to stick with a known quantity, not something too exotic or risky. With a month to go, he reviewed designs for travel Dobsonians.

http://www.pha.jhu.edu/~atolea/WAS/6travelscopes.pdf

His aim was to carry on the scope, not subject it to checked baggage. That set dimensions of 22 inches by 14 inches by 9 inches. He looked at designs of Greg Babcock, a 10 inch f/5 with mirror box and cage which carry on. Jerry Clement make a 6 inch f/5 in the December 2002 Sky and Telescope, and Jack Gelfand fit a 16 inch f/5 into 2 checked suitcases. It used long trusses which are collapseable camera monopods. The cases are 40 and 45 lbs. He looked at 6 inch designs of Albert Highe and Don Hunton. A clever 8 inch by Michael Koch incorporates folding rulers as collapsible trusses:

http://www.astro-electronic.de/reise.htm

A single box encloses mirror, upper cage, 8 trusses, eyepiece, shroud, star chart and flashlight. All hardware is captive. It is 10.6 by 10.6 by 6.7 inches.

By Michael Koch

Barry Leger's design has inspired a number of scopes:

http://fesunoff.com/astro/trussDob.html

Gary Seronik's design was appealing for simplicity, 8 inch aperture, and ruggedness. It's truss poles could be easily carried in luggage. It was featured in the December 2001 Sky and Telescope. Many construction details were available. It promised to come in at a reasonable cost.

http://www.pha.jhu.edu/~atolea/WAS/200112120124.pdf

Greg's expenditures included:

8 inch f/5 mirror, Antlers Optics	$149
Diagonal	70
Diagonal holder	35
Kineoptics helical focuser	89
Rigel Quikfinder	42
2 pair trekking poles=trusses	50 x 2
Hardware	75
Wood from Nate's pile	40

Gifted woodworker and scope builder Nate Perkins was enlisted to assist, and the scope rapidly took shape. The design produced a very functional, solid scope with comfortable eyepiece height.

Initial use showed the scope to be top-heavy. Greg wished to avoid weighing down the box with counterweights. He applied the spring counterweight concept of Tom Krajci, modified for the small scope. Greg came up with novel spring routing which functions very well. Transport to Australia came off without a hitch.

The astronomy segment started at Ayers Rock. They hiked around the 7 mile trail. Climbing is forbidden. Daytime high temps were about mid 60s F and dropped to the 30s at night. The region is loaded with bottlebrush trees. Wild camels are a hazard, so Greg viewed from his lodging. First light with Jupiter gave Greg his best view ever. Seeing was stable and a dozen bands showed on the planet. The southern sky was very disorienting, and a good star chart was critical. A starwatching program for tourists was a constellation talk with a look at Jupiter. Greg fired up Starry Night Pro to demonstrate the sky from Ayers Rock. The DSOs in Scorpius and Sagittarius were straight up. The Southern Cross was less obvious than he expected, surrounded by such a starry field. Omega Centauri looked great in the scope, and was easily found with eyes alone. NGC 5139 and NGC 4755 were favorites, and he had a great look at the Eta Carinae region. Thanks to his expert builder, the travelscope was a great success. Greg advises traveler to use detailed plans and where possible, models, to avoid surprises. Tap the experience of others, and allow double the time you expect for construction. Next time he will know more of the southern sky and take a longer list of DSOs. A flexible schedule is best to deal with surprises or weather. He would be happy to try another trip, to South America, South Pacific, or Africa. Ideally, we would have a reciprocal arrangement with a southern club to share views with more aperture.

NCAS Vice President Greg Halac works at Hewlett Packard in semiconductors.

October 4 NCAS Business

President Nate Perkins called the meeting to order. The calendar of observing events was announced. The Treasurer's Report from Bob Michael listed club funds at $437.37. The topic for next month was decided, a member's show and tell.

Comet Holmes 17/P in Brillant Outburst Oct 24 on

The comet 17P/Holmes is way cool!!! Its bright and has a huge coma and a tiny tail. It makes a right triangle with alpha and delta Persei and is brighter than beta Persei to the north of it.

It is soooo bright, I didn't see it but that "star" didn't match any stars on the comet finder chart. Put 132x on it and be ready to have your socks blown off!!!

Mike Hotka
===

Thanks for the tip. That is fantastic. Never seen that color in a comet before, mag 16 to 3 in one day, wow. Unfortunately my 10" cat has been lent to a friend and all I have available are 25x100 Binos but still impressive

Ells Dutton
===
I had a fine look about 0500 UT. The yellow shell with the nearly centered nucleus is reminiscent of a bright planetary nebula and central star. The yellow color is striking. The size of the shell is about equal to the angular diameter of the lunar crater Tycho . I can detect a very dim outer envelope, tough to see in spite of the Moonlight, which is about equal in radius to the diameter of the bright shell. Heden's shot gives the telescopic look of the brighter portions. Cool object! Dan Laszlo Ft Collins 18" Newtonian 90x. (Total diameter estimated about 4 arcminutes at 0500 on 10/25/07, ed)

http://www.spaceweather.com/swpod2007/24oct07/P-M-Heden1.jpg?PHPSESSID=sdlv0982crh5bhdvqmpjsqfkk7

Dan Laszlo
===

Attached is an image of comet 17P Holmes taken with Phillips Toucam and Celestron Nexstar11 just after 11pm. Large variation in brightness make it a tough object to photograph. I haven't found the right combination yet. Thus far my best shot have been with the webcam.

An impressive object to view in the eyepiece, much, much better than in photograph. The yellowish tint is very noticable and the bright nucleus and surrounding coma are quite striking.

Doesn't appear to be a tail yet in time exposures up to white-out levels in time exposures.

I come up with less than that, only about 2.6 arc min. On an overexposed shot, (30 sec at ISO1600), I measure the coma to be roughly circular and about 230 pixels in diameter. At direct focus with the C11 (fl 2800 mm) and F6.3 focal reducer that should be 0.67 arc/sec per pixel (Canon Xti has 22.8x14.8mm sensor, 5.7 micrometer pixel size, 3888x2592 pixels).

Vern
===

With a Pinpoint solved image and a substantial overexposure, I got a coma diameter of 3.2 arcmin. 5-minute exposure @ ISO 200 with a Canon 300D, 0.63 reduced 12" LX200.

http://www.cloudbait.com/csas/holmes_a.jpg - 5-minute exposure, overexposes the coma but allows the full size to be seen. (1.76"/pixel).

http://www.cloudbait.com/csas/holmes_b.jpg - 1-second exposure, shows the entire coma and the slightly off-center nucleus. Also catches the color pretty closely. (0.88"/pixel)

http://www.cloudbait.com/csas/holmes_c.jpg - 5-minute exposure, inverted and stretched to try and show any tail structure. Don't see any. (1.76"/pixel)

Chris L Peterson
Cloudbait Observatory
http://www.cloudbait.com

===
Wow! What a great comet, I buzzed by it a few times looking for it with binos, I was looking for something smaller I guess, thought it was a star in finder scope at first or planet sized object like Vern had said, not a comet. . I also thought of it as a huge planetary nebula too Dan, with very bright pinpoint star almost in the middle. Slight yellowish color in C11 scope, Dan's 18 should work better for color and it's bright core. Sorry no tail, was noticed. I will be watching it now.

Gary G
===
It took me a while to identify with 10x30 binoculars, because I mistook it for a star several times...
It is really lovely at 100x. Thanks Mike and everyone who commented!
Kimon
===
Comet Holmes is my 80th comet! But soooo strange in binoculars. This is one comet that DEMANDS HIGH POWER. I used a 6" scope with 12mm+barlow eyepiece, but do not know the power. Within the round disk-like bright coma there appeared to be a comet with a tail. But that tail only went about 1/2 way to the edge of the disk. That half of the disk seemed brighter than the other half. This caused the central condensation to appear to be off center in binoculars because its details could not be resolved.

I too came up with a mag. of 2.8, easy to the naked eye as a star - even with
direct vision.

Should be much more complex and interesting tonight!

Paul Robinson
===
Hello all:
If you have not had a look at Comet 17P Holmes, do it right now!!! This is a fantastic sight and I would rate it up there with the Shoemaker-Levy impacts on Jupiter in terms of "coolness"!

Reading the buzz on the FRAC E-mails and the Sky & Telescope E-mail Astroalert tonight, I went outside to set up my TEC 140 mm refractor late this evening. Glancing up at Perseus, the comet was IMMEDIATELY APPARENT and could have been easily mistaken for a brilliant nova (or supernova) to anyone familiar with this constellation. It looks like a bright star 3 degrees East of Mirfak by Delta Persei (the comet pretty much forms a right triangle with these two stars). The "star" has a yellowish tinge to it, but there is nothing "diffuse" to the naked-eye appearance - it appears completely stellar. My naked-eye magnitude estimate was about Magnitude 2.8. It appeared very slightly brighter than Gamma Persei (mag 2.91), and was definitely brighter than Delta Persei (mag. 3.01). One look with the refractor and - "oh my gosh" - what a sight! Imagine a BRILLIANT 100 arc-second yellow-green "planetary nebula" with a central star that looks like a lighthouse beacon! This is centered in a diffuse "halo" (best seen with averted vision) which is about 4-5 arc minutes in size. The "planetary nebula" like structure is almost perfectly round, slightly less lucent immediately inside the surrounding "shell", then gradually brightening centrally to the brilliant central stellar nucleus. There is a jet-like structure seen emanating from the nucleus to the Southwest, but this does not extend beyond the central "shell". With careful averted vision, I can see a faint elongation of the outer halo in the Southwest direction also, which could possibly represent an early "tail-like" structure. You can see all of this despite a nearly-full moon nearby in the sky.

My impression is that this comet is what I would expect a bright planetary nebula like the Blinking Planetary or the Cat's Eye Nebula to appear like visually in the Palomar 200 inch! This is a MUST-SEE event for any serious observer so get out there and take a look ASAP!!! This outburst may only last 1-2 days. The local Clear-Sky Clock looks clear with excellent seeing for the next 24 hours, so no excuses!

Mike Prochoda
=====
I was wondering why it brighten so fast and so intensely. From one of the LASP scientists -

"With my class today, we proved that turning 0.1% of the comet into micron-sized dust would do the job. So it's probably some kind of outburst caused by passing near the sun, warming the interior enough to cause some violent cracking & explosive decompression."

Very cool!!!

Bill Possell
===
Night of Oct 25
I just got back from looking at the comet through a 14" scope. WOW!!! It is certainly one of the strangest things I've ever seen. Nice circular glow, a nucleus (I think) and a fan coma or tail coming off it. Very cool view.
Marcy Curran
===
Yes. Even naked eye it looks obviously non-stellar tonight. And through binoculars, it looks much more comet-like than last night, although still somewhat more sharply defined than most comets. I'm not seeing any tail, though, either through binoculars or telescopically, and nothing is showing up on my deep images either. Chris
http://www.cloudbait.com/gallery/comet/holmes.html

Volunteer Firefighters Save Palomar Mtn
Volunteer firefighters save mountaintop
http://www.signonsandiego.com/news/metro/20071025-9999-1n25palomar.html

By J. Harry Jones
UNION-TRIBUNE STAFF WRITER
October 25, 2007

The top of Palomar Mountain hasn't burned in recorded history. Today, largely because of tireless volunteer firefighters and relentless air attacks, that still holds true. Firefighter John Thompson watched a backfire spread on the southeast side of Palomar Mountain last night. Crews kept the Poomacha fire away from the mountaintop. About 20 houses on the mountain, all off the six-mile South Grade Road north of state Route 76, were lost to the Poomacha fire late Tuesday night and early yesterday morning. Portions of the state park and its popular campground also burned. But when winds pushed the fire toward the top of the mountain yesterday morning, licking at houses along Crestline Drive, members of the Palomar Mountain Volunteer Fire Department forced back the flames. Air tankers repeatedly dropped fire retardant on the mountain's north and east faces, keeping the fire from overwhelming the community of about 200 permanent residents. Ground crews raced to douse the flames that tankers missed. No structures near Crestline, the location of most of the mountain's 300 houses and cabins, were lost….

ISS Computer Glitch, from Greg Halac

Interesting account of computer woes on the ISS:

http://www.spectrum.ieee.org/print/5598

Mars Rovers Get 2 Y Extension, from A Schweitzer

Mars rovers to go at least 2 more years
http://www.cnn.com/2007/TECH/space/10/16/mars.rovers.ap/index.html

PASADENA, California (AP) -- Mars' aging twin rovers will explore the red planet for at least two more years under an extension approved by NASA. It is the fifth time the space agency has continued the activities of the solar-powered, six-wheel robots, which landed on opposite ends of the planet in 2004. The extension means Spirit and Opportunity will conduct science experiments through 2009 provided they stay healthy. The rovers weathered a giant dust storm earlier this year that at one point drastically reduced their power and scaled back their operations.

Atmospheric Research Balloon Sighting

Thomas Dorman wrote:
> I had an interesting observation right at around
> sunset this evening around 00:40UT 10/12/2007 of a
> atmospheric satellite (research balloon).

What a treat! You probably saw the 1900 CDT sounding balloon from El Paso, Texas. Here is a map which shows the active stations in the U.S.:

http://weather.unisys.com/upper_air/skew/index.html

There's an excellent tutorial on how to read these SKEW-T diagrams here:

http://www.meted.ucar.edu/resource_modlist.php

Look for "SKEW-T Mastery." I've been through the course once, and I use the knowledge a few times a week. I have also poked at some of the mesoscale meteorology topics.

http://www.meted.ucar.edu/mesoprim/skewt/

The courses are free. I wish all online instruction was done as well.
John Dormer

NGC Viewing Info, from Greg Halac

I stumbled across an impressive web resource for ALL the NGC objects. Photos, viewing comments, and observing guides are included. I put the link on the NCAS "Viewing Info" page. See:

http://www.ngcic.org

Best Looks

Moon	Regulus Graze 11/3 am
	by Saturn 11/4, Venus 11/5
	by Jupiter 11/12,
	by Pleiades 11/24 am, by Mars 11/26
Mercury	low in ESE predawn first 3 weeks of month
Venus	by Spica end of month
Mars	high middle of night. Opposition is Dec 18
Jupiter	low in SW at dusk
Uranus	in S evenings
Neptune	in S evenings

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

TO:

International Space Station Passes for Loveland – Fort Collins November 2007

Date	Mag	Starts			Max Altitude			Ends		
		Time	Alt.	Az.	Time	Alt.	Az.	Time	Alt.	Az.
5 Nov	-0.1	05:22:15	10	SSW	05:24:40	25	SE	05:27:08	10	ENE
6 Nov	-2.4	05:44:31	10	SW	05:47:21	86	SW	05:50:17	10	NE
7 Nov	-0.1	04:35:34	24	SE	04:35:34	24	SE	04:37:42	10	ENE
7 Nov	-1.4	06:07:42	10	W	06:10:18	30	NNW	06:12:55	10	NE
8 Nov	-2.1	04:58:17	67	ENE	04:58:17	67	ENE	05:00:51	10	NE
8 Nov	-2.1	04:58:17	67	ENE	04:58:17	67	ENE	05:00:51	10	NE
9 Nov	-1.4	05:20:47	31	NNW	05:20:51	31	NNW	05:23:29	10	NE
10 Nov	-0.3	05:43:06	15	NW	05:43:55	16	NNW	05:45:50	10	NNE
11 Nov	0.9	04:33:54	11	NE	04:33:54	11	NE	04:33:59	10	NE
11 Nov	0.2	06:06:19	10	NNW	06:07:08	11	N	06:07:58	10	N
12 Nov	0.5	04:56:00	12	NNE	04:56:00	12	NNE	04:56:20	10	NNE
13 Nov	0.3	05:18:01	11	N	05:18:01	11	N	05:18:27	10	N
15 Nov	0.4	06:03:21	10	N	06:04:08	11	N	06:04:55	10	NNE
17 Nov	0.5	05:14:21	11	N	05:14:30	11	N	05:15:15	10	NNE
18 Nov	0.1	05:36:16	12	NNW	05:37:39	16	NNE	05:39:31	10	ENE
19 Nov	-0.9	05:58:12	11	NW	06:00:36	29	NNE	06:03:13	10	E
20 Nov	0.5	04:48:47	14	NE	04:48:47	14	NE	04:49:48	10	ENE
20 Nov	-2.4	06:20:32	10	NW	06:23:23	86	N	06:26:17	10	SE
21 Nov	-0.8	05:10:47	28	NNE	05:10:56	29	NNE	05:13:30	10	E
22 Nov	-2.4	05:32:50	41	NW	05:33:42	83	NE	05:36:34	10	SE
23 Nov	1.3	04:23:35	11	E	04:23:35	11	E	04:23:44	10	E
23 Nov	-1.1	05:54:58	19	W	05:56:14	27	SW	05:58:44	10	SSE
24 Nov	0.3	04:45:46	20	ESE	04:45:46	20	ESE	04:46:48	10	SE
25 Nov	0.0	05:08:02	17	S	05:08:02	17	S	05:08:59	10	SSE