

The Objective View

Newsletter of the Northern Colorado Astronomical Society

December 2004

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Open House, Chamberlain Observatory, dusk to 10 pm
Dec 18, Jan 15, Feb 12, Mar 19, Apr 16 303 871 5172
<http://www.du.edu/~rstencil/Chamberlin/>

Longmont Astronomical Society
Dec 16 7 pm Fiske Planetarium, Boulder
<http://longmontastro.org/>

November 4 Program

Members discussed a variety of topics. Joseph DiVerdi has begun to develop radio astronomy projects with Rodney Howe at the Deep Space Exploration site near Longmont. Dan Laszlo showed high-definition video animation from the Mars Rover missions, courtesy of Dr. Steve Lee. Dan also had lunar eclipse images taken by Andrew Laszlo with a C102F.

Next Meeting: December 2 7:30 PM
Astrobiology 101, by Dr. Dan Laszlo

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 Dark Sky Star Party Dates
December 3, 4, 10, 11

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
January 14 6:30 pm

Other Events

Little Thompson Observatory Star Night, Berthoud
December 17 Bryan White 3D Comets and Aurora
Berthoud High School Auditorium 7:30 pm
<http://www.starkids.org>

Cheyenne Astronomical Society
December 17 7 pm Cheyenne Botanical Garden
Please RSVP to 635-5944 for Members Christmas Party
<http://home.bresnan.net/~curranm/>



Joseph DiVerdi, Rodney Howe, and the Table Mountain dish

NCAS Business, November 4 2004

President Dan Laszlo called the meeting to order. The treasurer's report was given by Nate Perkins. The Rukl Atlas of the Moon has been reprinted by Sky & Telescope. The successful public starwatch at Pawnee National Grasslands was reported. Dan Laszlo invited volunteers for DSC dates.



Art Berglin, Loveland

QuickTime™ and a
TIFF (Uncompressed) decompressor
are needed to see this picture.



David Dunn, Pawnee Grasslands

DMSP F16 nighttime visible imagery of the NE USA from Nov. 8 at 0042 UTC. The US Air Force DMSP satellites have a low-light visible sensor capable of detecting nighttime phenomena. Image credit: Meteorological Satellite Applications Branch, Air Force Weather Agency.
http://www.spaceweather.com/aurora/gallery_01nov04_page5.htm



Dan and Andrew Laszlo, Donath Lake



Mike Prochoda, Estes Park

Geminid meteors December 13-14

Expect at most 75 per hour, between 10 pm to 2 AM.

Jupiter occultation predawn December 7 2004

The occultation will be in progress when the Moon rises. Jupiter's reappearance is between 2:40 and 2:45 am MST

Best Looks

December 10-13: Planets line up matches the sequence of their orbits from the Sun. Only Venus to Neptune are visible.

Moon	Occults Jupiter 12/7 am By Venus & Mars 12/9 and 10; By Saturn 12/27
Mercury	In SE predawn last week By Venus 12/29
Venus	Bright in E predawn By Mars 12/5, 6; By Beta Scorpii 12/30 am
Mars	Low in SE at dawn
Jupiter	In E predawn
Saturn	Overhead in middle of the night
Uranus	In Aquarius early evening
Neptune	In Capricornus early evening
Pluto	Hidden by Sun

This Is SKY & TELESCOPE's AstroAlert for Planetary Activity: Uranus Observations Needed

Uranus, whose spin axis is tipped nearly parallel to its orbital plane, alternately turns one pole, then the other, toward Earth as it circles the Sun every 84 years. For the last several decades, Uranus's southern hemisphere has been tipped our way. In 2007 we'll have an equator-on view, and for several decades after that we'll see mostly the northern hemisphere. The last time we had a good equator-on view -- enabling us to observe the whole planet from pole to pole as it rotates once every 18 hours -- was several decades ago. Back then the telescopes, cameras, and techniques available to amateur astronomers were nowhere near as sophisticated as they are today. Thus backyard observers and astrophotographers have an unprecedented opportunity to contribute to professionals' studies of Uranus over the next few years.

In a typical backyard telescope, Uranus appears at first glance as a bland blue-green orb surrounded by a few faint moons. But if you look carefully or obtain high-resolution images, you may detect clouds or other features in the planet's atmosphere. Planetary scientist Heidi Hammel (Space Science Institute) is requesting amateur observations and images of Uranus to help identify discrete features in the planet's cloudtops and/or to note any significant changes in the planet's appearance. Hammel notes that in red light, Uranus exhibits a bright band -- a polar "collar" -- encircling the south pole. You can see it in Hubble Space Telescope images shot over the past decade:

<http://hubblesite.org/newscenter/newsdesk/archive/releases/category/solar%20system/uranus/>

In blue light, the polar collar appears as a dark band instead. As we get closer to the equator-on view that's coming in 2007, we'll see less and less of the south polar collar; the planet's south polar region won't look as bright in red light or as dark in blue light as it has in recent years. You should expect to see this, so don't be surprised if it happens. It is a natural consequence of the change in viewing geometry and is not of any particular scientific interest.

What will be more interesting is if visual observers and/or astrophotographers start to pick up discrete features (clouds) or evidence for the formation of a polar collar in the planet's northern hemisphere.

Note that discrete features will be believable only if they are recorded by more than one observer and/or if they are seen to move across Uranus's disk as the planet rotates. Likewise, confirmation of a north polar collar will require multiple observations.

Near-infrared images made with one of the 10-meter Keck telescopes in Hawaii show extensive activity at the same latitude in the north where the polar collar appears in the south, suggesting that a polar collar is indeed beginning to develop in the north. Perhaps it will grow bright enough, or sink low enough in the atmosphere, to become visible in backyard telescopes. (Observations at near-IR wavelengths are sensitive to clouds at higher altitudes than those made at visible wavelengths.)

Experienced planetary observers and imagers are encouraged to keep watch for discrete features and/or the formation of a north polar collar on Uranus. Please keep in mind the caveats noted above about confirming the features via multiple observations and/or planetary rotation -- it is easy to be tricked into thinking you've found something that isn't there if all you have is a single observation or picture.

Reports of interesting features and/or activity that changes the telescopic appearance of Uranus should be sent by e-mail to Richard Schmude, Remote Planets Coordinator for the Association of Lunar and Planetary Observers (ALPO). His e-mail address is schmude@gdn.edu.

Please make sure your report indicates the equipment used and the dates and times (including time zone) of your observations or images. If you're capturing images, the best way to note the orientation of Uranus is to take one image that shows the moons swarming around the planet, followed immediately by a closeup of Uranus itself -- without rotating the camera between exposures. Take care not to overprocess your images; the less sharpening and colorizing, the better. And if you use any filters with your eyepiece or camera, please note the wavelengths they transmit.

Uranus spends 2004 in Aquarius. A finder chart appeared on page 107 of the April 2004 issue of Sky & Telescope and is available on the magazine's Web site:

http://SkyandTelescope.com/observing/objects/planets/article_1221_1.asp

You can get a detailed physical ephemeris for Uranus, one that specifies the orientation of its equatorial plane with respect to Earth as well as the positions of its brightest satellites for any date and time, from NASA's Ames Research Center:

http://ringmaster.arc.nasa.gov/tools/ephem2_ura.html

Thanks, good luck, and clear skies!

-- Rick Fienberg

Editor in Chief, Sky & Telescope

Chair, AAS Working Group for Professional-Amateur Collaborations

From: Dan Laszlo
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TO:

International Space Station Passes for Loveland – Fort Collins

December 2004

Date	Mag	Starts			Max. Altitude			Ends		
		Time	Alt.	Az.	Time	Alt.	Az.	Time	Alt.	Az.
30 Nov	-0.8	17:12:30	10	NW	17:15:32	64	NE	17:18:23	10	ESE
30 Nov	2.7	18:49:34	10	WS W	18:50:29	11	SW	18:51:23	10	SSW
01 Dec	1.1	17:40:28	10	WN W	17:43:09	31	SW	17:45:50	10	SSE
03 Dec	1.8	17:00:46	10	WN W	17:03:17	26	SW	17:05:49	10	SSE
08 Dec	3.5	06:35:57	10	SE	06:36:46	11	SE	06:37:36	10	ESE
10 Dec	2.8	05:55:16	10	SSE	05:56:46	13	SE	05:58:18	10	E

Date	Mag	Starts			Max. Altitude			Ends		
		Time	Alt.	Az.	Time	Alt.	Az.	Time	Alt.	Az.
11 Dec	0.3	06:21:23	10	SW	06:24:18	47	SE	06:27:07	10	ENE
12 Dec	2.3	05:14:51	10	S	05:16:47	16	SE	05:18:43	10	E
13 Dec	-0.4	05:42:44	24	SSW	05:44:10	59	SSE	05:47:11	10	ENE
14 Dec	2.8	04:38:45	11	E	04:38:45	11	E	04:38:58	10	E
14 Dec	-0.2	06:10:28	21	W	06:11:58	37	NNW	06:14:47	10	NE
15 Dec	1.7	05:06:09	20	ENE	05:06:09	20	ENE	05:07:13	10	NE
15 Dec	1.0	06:37:52	10	WN W	06:39:58	17	NNW	06:42:03	10	NNE
16 Dec	1.1	05:33:18	22	NNE	05:33:18	22	NNE	05:34:44	10	NE
17 Dec	1.3	06:00:16	16	NN W	06:00:16	16	NNW	06:01:57	10	NNE

Date	Mag	Starts			Max. Altitude			Ends		
		Time	Alt.	Az.	Time	Alt.	Az.	Time	Alt.	Az.
24 Dec	1.7	06:03:29	12	N	06:04:34	14	NNE	06:06:18	10	NE
25 Dec	0.8	06:30:03	11	NN W	06:32:33	27	NNE	06:35:08	10	E
26 Dec	1.8	05:24:59	15	NNE	05:24:59	15	NNE	05:26:22	10	ENE
27 Dec	0.6	05:51:37	26	N	05:52:26	30	NNE	05:55:05	10	E
28 Dec	-0.9	06:18:17	21	NW	06:20:07	82	SSW	06:23:02	10	SE
29 Dec	1.4	05:13:21	25	ENE	05:13:21	25	ENE	05:15:00	10	E
29 Dec	0.9	06:45:11	10	W	06:47:31	21	SW	06:49:50	10	S
30 Dec	-0.6	05:40:08	62	S	05:40:08	62	S	05:42:48	10	SE

Date	Mag	Starts			Max. Altitude			Ends		
		Time	Alt.	Az.	Time	Alt.	Az.	Time	Alt.	Az.
31 Dec	1.1	06:07:00	17	SW	06:07:14	18	SW	06:09:19	10	S
01 Jan	2.4	05:02:15	12	SE	05:02:15	12	SE	05:02:30	10	SE
08 Jan	0.8	18:16:34	10	S	18:18:45	22	SE	18:18:45	22	SE