The Objective View

December 2007

Newsletter of the Northern Colorado Astronomical Society

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Next Meeting: December 6 7:30 pm

The Observing Clubs of the Astronomical League, by Michael Hotka

Club Business at 7:15 pm; Officer Nominations

Discovery Science Center
703 E Prospect Ave, Fort Collins

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

NCAS Programs

Jan 10	Galaxy Mergers	Tom Fay
	Elections	
Feb 7	Auger Observatory, Extreme Cosmic Rays	P Bauleo
Mar 6	New Horizons/Pluto	Fran Bagenal

Discovery Sci Ctr Starwatch, 703 E Prospect, Ft Collins

Jan 12	5:15 pm	
Feb 20	6:30 pm	Total Lunar Eclipse
March 14	7:30 pm	

Dark Sky Observing Opportunities, Roland's Astro Corral

Dec 7

Thanks to Gary Garzone for his legwork!

Other Events

Little Thompson Observatory Star Night:
Dec 21 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 Dec 21 7 pm
Christmas Party, members rsvp 307 635 5944
http://home.bresnan.net/~curranm/

Chamberlin Observatory Open House, dusk to 10 pm
Dec 15, Jan 12, Feb 16, Mar 15, Ap 12, May 10 303 871 5172
http://www.du.edu/~rstencel/Chamberlin/

Longmont Astronomical Society Dec 20 7 pm
FRCC, 2121 Miller Rd http://longmontastro.org/

November 1 Program
NCAS Members Show and Tell

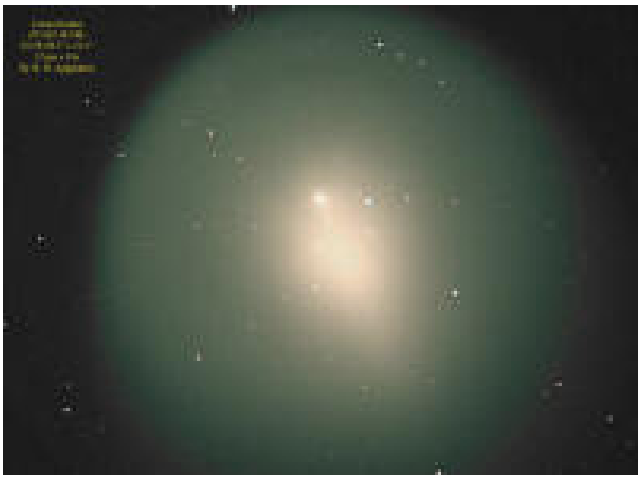
The ATM spirit was alive and well and the November NCAS Meeting. First was John W whose first mirror dated to an 8th grade project. He started to make a 12 inch SCT, got the spherical primary and hyperbolic secondary done. The corrector plate was a source of grief, however and he elected to modify the scope to a Newtonian. In its Dobsonian incarnation, the scope has an aluminum mirror cell and truss tube on a wooden rocker. The finder scope is assembled from surplus lenses. The scope appears to perform to at least 1/8 wavefront, with quality lunar views. Ken and Donna K have enjoyed their SCT and Orion Dob, and requested tips on checking collimation. They are awaiting parts to fix the digital setting circles. Nate P showed his 16 inch ultralight truss Dobsonian with coopered mirror box. He has been very happy with the Swayze mirror in the scope. Randy and Judy Cunningham from Astrosystems showed their latest laser skypointers. They have a standard 5 mw for typical conditions, and a 10 mw unit which is effective from suburban or moonlit skies. They also carry a dew-resistant Pocket Sky Atlas from Sky and Telescope. It has 1600 deep sky objects. Stars to mag 7.5 are plotted. They also carry a solar battery charger. Tom Fay presented his work with www.galaxyzoo.org/default.aspx . Computer sorting Sloan Digital Sky Survey galaxy images as spiral, elliptical, edge-on (and direction of rotation) proved unreliable. A plea went to amateurs to classify There was a tremendous response, and 80,000 participants completed the 5 million galaxy project in about 3 weeks. The approach has changed and now 100,000 participants are performing repeat classification, this time with 20 persons assessing each target. A forum has started, users can rate their favorites. Some of his favorites are NGC 3945, NGC 1068. The SDSS Explorer view allows views by coordinates, or a request for info by object. It has objects to magnitude 22. See:
http://cas.sdss.org/astro/en/tools/explore
Dan L showed a variety of Comet Holmes images gleaned from the Web. It continued to be a very dynamic object. Clouds parted long enough for obervers to take a brief look at the comet.

By Ivan Eder

http://eder.csillagaszat.hu/digital/C17P_Holmes/20071104/17P_Holmes_20071104_eder_en.htm

By Brian Kimball, LPOD for Dec 3 2007
http://www.lpod.org/?m=200712&paged=3

Comet Holmes by Tom Teters 80mm refractor Nov 16 2007



Comet Holmes by Roger Appeldorn 12 inch SCT Nov 11

November 1 NCAS Business

President Nate Perkins called the meeting to order. The calendar of observing events was announced. The Treasurer's Report was given by Bob Michael. Our December speaker, Michael Hotka, was announced.

From Andrea Schweitzer

http://space.newscientist.com/article/mg19626323.900-how-earths-twin-became-so-hellishly-hot.html

How Earth's twin became so hellishly hot
28 November 2007
NewScientist.com news service
Govert Schilling

With scorching rocks, downpours of sulphuric acid, and a crushing atmosphere with a pressure 90 times Earth's, Venus has to be the most hellish planet
in the solar system. Yet in one respect it turns out to be surprisingly Earth-like.

A year's worth of results from the seven experiments aboard the European Space Agency's Venus Express mission, released this week, have helped to create the most detailed 3D model of Venus's atmosphere to date - and it paints a surprisingly familiar picture (Nature, vol 450, p 629). "In many respects, Venus is actually pretty much like Earth," says project scientist Håkan Svedhem of ESA's European Space Research and Technology Centre in Noordwijk, the Netherlands.

Despite dramatic differences in temperature and chemical make-up, the atmosphere's basic machinery is similar to Earth's, Svedhem says. One of the main features is Hadley-like convection cells in the lower atmosphere, moving between the equator and up to around 60 degrees latitude in each hemisphere. Similar features are one of the main drivers of the Earth's weather.

Some aspects of the Venusian atmosphere remain mysterious, but the new data could help explain the mechanics behind them, says Svedhem. For example, nobody knows exactly why the upper atmosphere goes around the planet every 96 hours, whereas Venus itself takes no less than 243 Earth days to spin on its axis. Another mystery is the origin of bizarre double vortices in the atmosphere above both poles, though some scientists think they might be linked to the upper atmosphere's rapid rotation.

Moon in High Definition 3-D

---------- Forwarded message ----------
Date: Wed, 28 Nov 2007 23:07:17 +0900
From: "Terazono, Junya" <jtv@terakin.com>
Subject: Kaguya update - 3D movies made from camera data

Hello lunatics,

JAXA released today three-dimensional movies composed of the data acquired by Terrain Camera (Kaguya onboard). These movies can be viewed at:

http://www.jaxa.jp/press/2007/11/20071128_kaguya_e.html

Three movies has been published including one movies with anaglyph images. To enhance your 3D experience, preparation of 3D glass (blue and red glasses) are encouraged.

The area of data are 60 - 66 degrees north and around 240 degrees east. There is a named crater Dyson in the movie coverage.

As the TC has two cameras, diagonal forward looking and aft looking, stereoscopic data can be composed with high resolution of 10 meters per pixel. Please enjoy the first high-resolution 3D movies of the moon, but please take care not to suffer seasickness :)

Junya Terazono (jtv@terakin.com)

From Tom Teters

Former NCAS President Holds Guinness Lens Record

• Largest lens The largest refracting optical lens in the world measures 5.99 feet in diameter. A team led by **Thomas Peck** at the Optics Shop of the Optical Sciences Center of the University of Arizona completed it in January 2000. It was built as a test for the secondary mirror of the 21.3-foot MMT Telescope on Mount Hopkins. Congrats to Thom!

STS-120 Reentry Sighting from Fort Collins Nov 7 2007

Naked-eye, from the HP site (I didn't have time to get my binoculars...). It was above the clouds, which covered less than 5 degrees from my position. I saw a very faint streak to the NE, that was propagating faster than for an airplane. No glow.

Kimon Berlin

2008 Texas Star Party - Sign up Now!

The great tradition of dark sky observing continues with the 30th Annual TEXAS STAR PARTY, June 1 - 7, 2008!

1. You should submit a Registration/Reservation Request Form to ENTER THE TSP DRAWING before January 20, 2008. This will provide you the highest possible chance of being selected as one of the 700 people who will be able to attend TSP this year. Read about the drawing here: http://www.texasstarparty.org/draw.html

or fill out the Request Form immediately at:

http://www.alphadata.net/cgi-bin/forms/forms.cgi?form=3

READ THE REST OF THIS E-MAIL BEFORE SUBMITTING YOUR REQUEST.

2. Participants at the TEXAS STAR PARTY can select from a variety of accommodations on the Prude Ranch, including bunkhouses, private cabins, trailer hookups, and campsites with convenient bathhouses. All accommodations include access to a TV lounge, a western-style dining room, and an indoor swimming pool. And of course the convenience of the observing fields!

For rates and more information on ranch and nearby accommodations please visit:
http://www.texasstarparty.org/travel.html

3. If you plan on staying off site...
You MUST send in a Reservation Request form (See #1 above). If want to put an equipment tent on the observing fields, there is now a $5/day charge by the Ranch.

4. The TSP Registration Fee (DOES NOT INCLUDE your accommodations) is $50/person if you pre-register before April 30, 2008. (Each additional family member is just $30 more.) For more information about TSP Registration rates and policies, visit:
http://www.texasstarparty.org/tspreg.html

The drawing is in late January, and if your name is drawn you will get a link to a TSP Registration Form (and optional Prude Ranch Reservation Form) to send in with your payments in February/March. SIGN UP NOW!

Questions? Visit our web site for complete details!
http://www.texasstarparty.org/ or email
TSPRooms@TexasStarParty.org

We look forward to seeing you next June!

the volunteers for Texas Star Party

Holiday Cheer From Andrea Schweitzer

(Fake) NASA Internal Email From Mike "Grinch" Griffin: The Twelve Days of Christmas and the Vision for Space Exploration

STATUS REPORT
Date Released: Tuesday, December 4, 2007
Source: NASA HQ

Date: 4 December 2007

To: All Personnel

From: Office of the Administrator

Subject: The Twelve Days of Christmas and the Vision for Space Exploration

With potential budget and performance challenges in implementing the Vision for Space Exploration, it will be necessary to make some changes to the traditional twelve days of Christmas. All organizations are asked to implement the following immediately:

1) The "partridge in a pear tree" is a classic example of conflicting requirements that cannot be satisfied concurrently: Either the partridge will eat the pears, rendering the tree ineffective, or it will not, and the bird will die. Ongoing continuous replacement of partridges and/or pears would be the inevitable outcome of deployment. The Constellation program is directed to deploy either a partridge or a pear tree, but not both.

2) "Two turtle doves" is an ambiguous specification. Either these are to be turtles, or they are to be doves, but they cannot be both. Studies that will reach this inevitable conclusion will be unnecessarily and unaffordably expensive. Constellation is directed to select either two turtles or two doves. One turtle and one dove is not an acceptable option as this would lack the desirable self-replication feature. (If the current requirement arises from turtles and doves being supplied by contractors in two different Congressional districts, this matter will be handled at the Headquarters level.)

3) The "three French hens" are evidently the result of an agreement with an international partner that has been interpreted as having the force of a formal treaty. Since this item comes early in the development path and is seemingly small in magnitude, it can remain as long as justification is provided.

4) The "four calling birds" are presumably part of the communications system. Since this function is required to be two-fault-tolerant, only three such birds are necessary. Delivery order for the fourth bird is to be canceled. (If the fourth bird has already been delivered, it is to be put in bonded stores for use as a replacement in the event of failure of one of the three deployed birds.)

5) "Five golden rings" seems an excessive requirement. Gold is both expensive and structurally weak. Was a study performed to determine if it is actually necessary for the application? Further work on the rings is to be stopped pending review of alternative materials.

6) "Six geese-a-laying" represent an unaffordable redundancy with the three French hens provided earlier. It appears that there is an implicit requirement for "early egg capability" that could not be met on schedule by US-provided geese, and thus the Partner-provided hens were deployed as a temporary measure. If this is the case, Constellation is directed to enter into a barter agreement with the Partner for the deployment of additional French hens, in lieu of the development of geese.

7) It is unclear how "seven swans-a-swimming" could be feasibly deployed in exploration missions: In the microgravity environment experienced during transit to the Moon and/or Mars, there is no defined free-surface interface between water and air upon which the swans can swim. The technological risk of developing microgravity-capable swans represents a significant cost threat. Upon arrival at the Moon and/or Mars, water will be too valuable a resource to be used for avian aquatics. Constellation is directed to cease work in this area unless a clear justification for the requirement, and credible cost containment strategy, can be provided.

8) Deployment of "eight maids-a-milking" implies that there be cows (or similar) to be milked, yet this requirement is not defined. The cost of the required habitat/holding facilities for a fleet of cows large enough to productively occupy eight maids creates an unacceptably high lien against the Constellation program. Even if a biological research activity provides these facilities, their impact on the life support system needs to be carefully assessed. Constellation is directed to cease deployment of the eight maids pending a thorough review of their impact. This review must also determine how to make the requirement non-gender-specific, as NASA will not be party to such discrimination.

9) "Nine ladies dancing" necessarily implies that there be music, but the acoustic environment on CEV and other vehicles is expected to be near the tolerable limit for human exposure. To add an additional noise source will have either have detrimental effects on crew health, or require additional--and costly--noise abatement measures elsewhere. Constellation is directed to suspend implementation of this requirement until a thorough study of these matters is performed. (This requirement must also be made gender-inclusive if it is to be retained.)

10) The requirement for "ten lords-a-leaping" apparently refers to ten members of the Astronaut Corps. A culture shift away from regarding flight crew as a royal caste is long overdue within the Agency. Furthermore, their leaping activity is to be suppressed, as this would have a detrimental effect on any microgravity research being performed.

11) The "eleven pipers piping" and "twelve drummers drumming" would seem to be the source of the music needed by the "nine ladies dancing." Even if the acoustic control issues identified above can be satisfactorily addressed, live music is a luxury that we cannot afford until it is clear that all other basic requirements can be satisfied within budget. Constellation is directed to consider upgrades to the existing caution and warning audio announcement system to enable its use as a means to play recorded music for the nine persons dancing, should they be deployed. The Agency will provide outplacement services to the pipers and drummers.

While I realize that these modifications will involve a change to the traditional concept of the Twelve Days of Christmas, all of us are aware of the significant technical and budget challenges we face. We must continue to examine carefully not only every requirement, but the means by which requirements are implemented.

We should note that while this memorandum has addressed Christmas, NASA is an inclusive Agency that seeks to benefit from a variety of diverse cultural, religious, and ethnic traditions. In the near future, we will consider other perspectives on this problem. For example, keeping a fast during the Islamic month of Ramadan would significantly reduce the requirement for food (and consequent waste management) for 8% of each year. Means of adapting this approach to the CEV will be investigated.

Finally, we will explore the Jewish feast of Hanukkah, which celebrates an occasion wherein one day's supply of oil was able to fuel a lamp for eight days. This efficient approach to the management of a consumable resource offers great promise for Constellation, and will be examined thoroughly. Initial study of this process suggests that the enabling technology here is called "divine miracle." This has often been identified as the most effective--if not the only--way that the VSE could be implemented.

I thank you in advance for your cooperation and wish you and your families a happy holiday.

From Tom Teters

Do you like those old star charts made by Flamsteed, Huygens, Bayer's Uranometria 1661, even the 'Moon by Hevelius? The ones you've seen in woodcuts in old astronomy books? Well the Navy has an excellent page with some exquisite scans of these and many other.
http://www.usno.navy.mil/library/rare/rare.html Man, have we come a ways in star chart tech.
If for nothing else, they make nice wallpaper on your monitor. Some of these are real works of art.

Best Looks

Geminid Meteor Maximum Dec 13-15

Moon by Saturn 12/1, Venus 12/4
by Pleiades 12/21, by Mars 12/23-24
by Beehive M44 12/26
By Regulus 12/27 2000 MST
Mercury In solar glare
Venus In SE predawn
Mars High middle of night. Opposition is Dec 18
Jupiter In solar glare
Saturn In E predawn
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 December 2007

Confirm passes after Dec 6 STS-122 launch

Date	Mag	Starts			Max. altitude			Ends		
		Time	Alt.	Az.	Time	Alt.	Az.	Time	Alt.	Az.
4 Dec	-1.4	18:22:56	10	WSW	18:25:14	47	WNW	18:25:14	47	WNW
5 Dec	-1.5	17:09:55	10	SSW	17:12:35	37	SE	17:15:05	11	ENE
5 Dec	0.5	18:45:19	10	W	18:46:24	17	WNW	18:46:24	17	WNW
6 Dec	-2.1	17:31:28	10	WSW	17:34:17	61	NW	17:36:09	19	NE
7 Dec	-0.6	17:53:44	10	W	17:56:08	24	NNW	17:57:08	20	N
8 Dec	0.2	18:16:34	10	NW	18:18:02	14	NNW	18:18:02	14	NNW
9 Dec	-0.7	17:02:02	10	W	17:04:29	25	NNW	17:06:56	10	NNE
10 Dec	0.1	17:24:45	10	NW	17:26:25	14	NNW	17:28:05	10	NNE
11 Dec	0.4	17:48:03	10	NNW	17:48:27	10	N	17:48:51	10	N

http://www.heavens-above.com/main.aspx?Loc=Fort+Collins&Lat=40.585&Lng=-105.084&Alt=1525&TZ=MST