



# The Custer Comment

★ For The Curious ★

**December, 2004**

**Volume XXXIV, Issue 9**

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## ***Custer Observes Lunar Eclipse under Pristine Skies***



Image, courtesy Tom Madigan

Partial view of October's Total Lunar Eclipse as observed through Custer's 10" tandem refractor.



Image, courtesy Tom Madigan

Wide field view as seen through the 8x30 finder scope atop Custer's CG-14.

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### **Announcements & General Interest**

#### **Electronic delivery of the Custer Comment**

Please send me your email address so that you can receive the Custer Comment electronically.

There are many benefits to receiving the electronic edition. These benefits include:

1. Immediate delivery to your inbox;
2. No lost or damaged copies;
3. Color images and active hyperlinks to related content and images;
4. Print only what you want;
5. Immediate cost savings for Custer with the saved revenue to be put towards our observatory class 25" telescope, currently in the optical fabrication phase;
6. Frequent alerts and updates sent out to the electronic distribution list.

## **Editor's Column**

### **Tom Madigan, Editor**

Tom Madigan  
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Cutoff for submissions is the 15<sup>th</sup> of the month preceding publication

Visit the new Custer Website at  
<http://www.custerobservatory.org>

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Greetings all,

I hope everyone had a great Thanksgiving! With the sharp change in weather, it's clear that the North winds of winter will soon be blowing. Heralding this change in season will be the brilliant winter skies, complete with the winter Milky Way, Orion, the hunter and Canis Major.

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3. Color images and active hyperlinks to related content and images;
4. Print only what you want;
5. Immediate cost savings for Custer with the saved revenue to be put towards our observatory class 25" telescope, currently in the optical fabrication phase;
6. Frequent alerts and updates sent out to the electronic distribution list.

A warm welcome to our new or returning members; Welcome one and all!

Custer now has a presence on Yahoo! If you would like to be "in the loop" on all the daily happenings at Custer such as last minute schedule changes, telescope maintenance, observers reports from the eyepiece and more, browse to <http://groups.yahoo.com/group/custerobservers> and sign up!

Regards,  
Tom Madigan, Editor

## Gift Corner & Classifieds

<p><b>We have meteorites.</b></p> <p><b>Great sets mounted in beautiful display cases. Perfect for gifts.</b></p>	<p>The Gift Shop still has a dwindling number of copies of ASTRONOMY FOR ALL AGES, by Philip Harrington &amp; Edward Pascuzzi, just \$20. As an added bonus, copies are signed by Ed Pascuzzi. We also have copies of <i>PARALLAX</i> by Alan W. Hirshfeld, guest speaker at the 2003 Jamboree. Quantities are limited so hurry and add this well-written and informative volume to your collection while supplies last.</p> <p><b>50% OFF SALE: THE EXCLUSIVE 2004 CUSTER ASTRONOMICAL POCKET DIARY, BASED ON CUSTER'S COORDINATES. NOW JUST \$4.50 + TAX.</b></p>	<p><b>Back by popular demand</b></p> <p>We again have the <i>exclusive, 2004 Custer</i> Astronomical Pocket Diary, based on Custer's coordinates. The price is still just \$9 and quantities are limited.</p> <p><b>New</b></p> <p><b>Custer logo coffee cups</b> ONLY \$4 EACH</p>
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### Classified Post

I have too many astro toys and need to find new homes for them. Please look over the list and if you can use some items, please email me.

I'm pooling my disposable income for a new goto GEM and special built refractor. All items are in great working condition and optics are excellent.

1. 1.5 year old Celestron Nexstar (GOTO System) 8I with GPS, Celestron visual back diagonal, 2 celestron ep's, \$250 dollar "JMI" rolling case(never used it), tripod and batteries for instant use. Wonderful views and easily transportable in the JMI case. Works great with a power tank optional battery system. Everything for \$1100. dollars. (I paid over \$1700 for this package).

2. Vixen A80SS OTA with Vixen red dot finder, collapsing dew shield. (Unscrew it, turn it backward and screw it back on - it saves around 4 inches of length in closed position). Amazing space saving design. Includes: End cap, dual 1.25 diagonal ep flip mirror system for visual and photographic use. Can use your 2" diagonal and eps on this baby also. (I'll throw in an ep if being used as a starter scope.)GREAT Grab-n-Go fully coated achromat doublet. About 14 inches long with dew shield "tucked in". Very Sharp views. Includes both standard mount and camera tripod mount bracket. Looks and works like new. About 5 months old. Well worth the asking price of \$320. dollars. After all, it is a Vixen quality scope.

3. Burgess 8x42 rubber armored nitrogen purged, waterproof, APOchromatic objective roof prism binos. Only 3 months old. Used them briefly during our First Light Celebration and a couple of times during the day to test them out. Top quality all purpose binos. Wonderful FOV for celestial viewing. Sharp Views. Comes with carry pouch, end caps for ep's and objectives. Originally \$200. Asking only \$175. dollars. I can bring to our next meeting for you to check them out. Burgess Optical web site shows them.

If interested please email me at [saarmason@earthlink.net](mailto:saarmason@earthlink.net) (phone: 516-593-2490).

I will accept personal checks or money orders.

*Courtesy, Sue Rose for George Saar*

## HEAVENLY EVENTS TO WATCH FOR DECEMBER, 2004

“ Work is done by sunlight;  
but it is under the stars  
that great dreams are dreamed.  
There is warmth and life  
in the day’s sunshine,  
but it is the stars that lure  
man’s mind to the endless immensity  
of a universe so broad that  
tangible reality can never span it. “

- Hal Borland

After months of waiting for planetary splendor in the evening sky, this wait continues in December - but the early morning and dawn skies compensate for that with sensational pairings! The first two weeks feature VENUS and MARS huddled together low in the southeast at daybreak, and the last two weeks of December finds fickle VENUS pairing up with MERCURY, with the red star Antares nearby, replacing red Mars (which has risen well above and to their right.) JUPITER rises in the east in the early morning hours and has its own magnificent fling with the waning crescent Moon on the 7<sup>th</sup>. Of the planets, only SATURN, which rises soon after nightfall and is due south around 2 AM at midmonth, has anything to offer for evening observers.

- 1 Be outside around 5:30 AM to find Venus rising directly above Mars low in the southeast. Well to the upper right of these two is the star Spica, and still higher is Jupiter. Now turn around; beneath the bright waning gibbous Moon you’ll find Saturn. Gemini’s stars Pollux and Castor are strung off to the right of Saturn.
- 5 Mars is closest to Venus today (1.2° apart.) See how close together they are at 5:30 AM this morning. Venus, at -4.0 magnitude, is about 190 times as bright as 1.7 magnitude Mars.
- 7 Early this morning Jupiter will be occulted by the waning crescent Moon - the only one out of a series of 11 occultations to be visible in dark skies over Long Island. Around 3:57 AM Jupiter will gradually slide behind the lighted left limb of the Moon. (To see both of Jupiter’s moons Callisto and Ganymede occulted, you need to set your telescope up and watch at least 15 minutes earlier.) Around 5:05 AM you’ll see Jupiter slide out from behind the darkened right edge of the Moon. (Callisto and Ganymede will pop out well before; Europa and possibly Io will appear just after Jupiter emerges.) Special note; During the occultation take the time to look for the seldom-seen Mare Occidentale (the Eastern Sea) which is librated toward us along the extreme left edge of the Moon!
- 7 Earliest sunset around this date, about 4:33 PM.
- 9 The thin crescent Moon rises ahead of Venus and Mars at daybreak.
- 12 The Moon, just past new, is at perigee. Large tides and coastal flooding are possible.
- 13 Cassini spacecraft swoops past Saturn’s Titan for the third time. A month from now it will hurl the Huygens probe toward Titan. ALSO: The Geminid meteors are at their peak, and there is no moonlight to interfere with them tonight and early tomorrow morning.
- 14 Algol,  $\beta$  (Beta) Persei, is in mid-eclipse at 9:17 PM, and again at 6:06 PM on the 17<sup>th</sup>.
- 20 With each passing day Venus sinks ever lower into the light of dawn, rising a bit later. Now, Venus can be seen low over the southeast horizon at 6 AM, and below and to its left Mercury now appears. (Mercury passed between us and the Sun on the 10<sup>th</sup>.) Watch Mercury vault over the top of Venus during the rest of December, only visible around 6 AM or shortly afterward.
- 21 Winter begins at 7:42 AM, as the Sun begins this year’s shortest trip across Long Island’s sky.
- 22 The Ursid meteors, radiating southward out of the Little Dipper, are obscured by moonlight until about 3:30 AM.
- 25 On this Christmas morn, Mercury has pulled up right alongside Venus at daybreak to form a “bright eastern star”. (Venus is actually about 30 times brighter than Mercury right now.)
- 26 Full Cold Moon sets after sunrise this morning.
- 27 Bright waning gibbous Moon joins the linear group formed by Castor, Pollux and Saturn tonight.
- 31 Mercury is now seen directly atop Venus in the dawn sky. They’re only 1.1° of arc apart, but in fact Mercury is much closer to us than is Venus right now; Venus is well on her way behind the solar far side and Mercury is about as far from us as is the Sun. (Mercury was at greatest elongation west of the Sun only yesterday.)

*Prepared by Robert Chapin*

## **NEWS AND NOTEWORTHY**

### **Astronomy Classes At Custer**

October 6, 2004 launched the first class in a six-session course on astronomy for beginners (aka "Stargazing 101") at Custer. Nineteen people were in attendance, including Custer members Barbara Lebkuecher, Donna McCormick, and Sven Steen. Board member, Jeffrey Owen Katz, Ph.D., taught the first three sessions in which he covered everything from the basics of our solar system, to deep space objects, recent interplanetary missions, the measurement of time, astronomical coordinate systems, to stargazing, star-hopping, what to look for when buying binos and scopes, and more. Board member and VP, Charles Cardona III, took over the fourth class, presented a lecture on eclipses, then invited the class to join Custer members in watching the full lunar eclipse taking place that evening. Eyes-on stargazing was the topic of the fifth class. Students were divided into groups which rotated between Jeff Katz on the lawn demonstrating star-hopping and identification, and Custer member, Steve Orlando, in the shed giving students another view of the night sky with the C14; Steve continued this during the sixth class, in which he also taught students more about telescopes and astrophotography.

A five-session Children's Astronomy Class, aimed at students 6 years old and up, began at Custer on October 7. The instructor was Custer member Colin Van Tuyl. Seven children were registered, which was not a bad turn-out for a 7:00-8:30 P.M. school night event.

Registration for both classes was conducted through Southold's Town Recreation Center, which also advertised the classes on their website, as well as in catalogs distributed through the township.

We expect these (and other) classes to be repeated in the Spring. Stay tuned to the Custer Comment for more details.

*Donna McCormick*

### **Fire In The Sky**

I walked outside last night to check the condition of the sky - wishing against the odds that the sky would clear so that I might be able to see some Leonid meteors. Alas, the sky was filled with clouds. But I happen to look west and saw an unusual red/orange glow on the horizon. I had never seen anything quite like this. I ran inside and got binoculars but I could not discern any detail. All I could see was that this bright glow grew and then subsided. I wasn't really sure just what I had seen. Not much time passed before the glow dimmed to obscurity.

The next day I checked the news and read that a car and gasoline tanker collided in Westchester County and that the tanker exploded. The article said that the flames shot up 60 feet. I checked a map and found that the location of the accident was due west of Jamesport. I had been, indeed, looking in the direction of the explosion. What I saw by chance was the fireball - somewhere around 80 miles away! Given the distance I doubt that I saw the explosion directly and probably saw the light refracted atmospherically. I saw no meteors that night but being outside and looking around provided a sight I'll not soon forget.

*James Slezak*

### **Aurora As Seen From Hampton Bays**

This morning at 4:45am my wife and I stepped out onto our second story deck to view Venus, Jupiter and the crescent moon, and it was a beautiful site, but as we turned to the North we were blown away by a dazzling aurora, white, green, gold, and yellow hued. By 5am it was gone.

*Anthony DePalma, Hampton Bays, NY*

**Editor:** NPR reports that this aurora was visible throughout most of the Northeastern US that night.

## Congratulations To Ian Andrews!

### **Ian Andrews volunteers for ISS Communication Link**

Local ham radio operators establish uplink to ISS and engage astronauts in 2-way conversation. The conversation, based on a list of 24 questions, lasted 10 minutes, roughly the length of time the ISS was above the horizon.

Custer member Ian Andrews is a member of the Southold Jr.-Sr. High School Amateur Radio Club. He and four other SHS students volunteered to assist members of the Peconic Amateur Radio Club (PARC) to set up and operate the station at the event. Fifth grade students at the Westhampton Beach Elementary School created the 20 some odd questions asked of the astronauts on the ISS. The Southold students and PARC members provided all of the computer, tracking, radio and antenna gear and know-how necessary to make the communications a reality. Westhampton Beach Elementary School had been on a waiting list to talk to the ISS for about two years. They were the 147th school to talk to the Space Station since inception of the ARISS program, (Amateur Radio on International Space Station).

Newsday ran the following article in their Nov 25<sup>th</sup> issue:

[http://www.newsday.com/mynews/ny-lispac254054702nov25\\_0,5041454.story](http://www.newsday.com/mynews/ny-lispac254054702nov25_0,5041454.story)



Image, courtesy Don Fisher

*Ian Andrews* recording the setup of Amateur Radio Station Tracking Equipment

### **Brilliant Presentation of "Ring World and the Red Planet"**

On November 20<sup>th</sup>, Custer's David Cohn delivered a brilliant multimedia presentation of the latest findings and images from NASA's multiple robot missions to Saturn and Mars. There were at least 20 in attendance with a lively question and answer session following with refreshments for all. This program is the first of many programs that David and others plan on giving, so please read this issue and future issues of the Custer Comment from cover to cover to stay abreast of the latest news and developments. If you're on the electronic distribution list, frequent alerts and updates are sent out also. To stay current with the latest images, findings and analysis, browse to NASA's official sites for the Mars twin rover mission and the Cassini-Huygens mission to Saturn:

Cassini-Huygens: <http://saturn.jpl.nasa.gov>

Mars twin rovers: <http://marsrovers.jpl.nasa.gov>

## ***Huygens Mission to Titan, a Landmark in Unmanned Space Exploration***

Saturday, January 15<sup>th</sup>, 2005, 7:30 PM



Images, courtesy NASA, JPL

New views of two of Saturn's moons, Titan and Tethys, represent the most detailed look at these moons to date and show a sharp contrast between them -- one is foggy and one is cratered. (Nov. 23)

Join us at Custer as we witness this momentous event in space exploration. On January, 14<sup>th</sup>, 2005, at 6:04 AM, EST (11:04 UTC), the Huygens probe will enter Titan's upper atmosphere traveling at 6 Km/second. Depending on factors still to be determined exactly, the decent of the probe and the concurrent execution of a full compliment of experiments, data and image capture will last between 2 and 2 ½ hours.

Since Custer has access to the live feed from NASA TV, we will be presenting a program entitled ***Huygens Mission to Titan, a Landmark in Unmanned Space Exploration*** the following evening, Saturday, January 15<sup>th</sup> at 7:30 PM. Since it is unlikely that anyone would turn out at 6:04 AM on Friday morning, a workday, we'll be presenting the recorded event as part of a full-featured program the following evening.

NASA's official site for the Huygens mission is:

<http://saturn.jpl.nasa.gov/operations/huygens-mission.cfm> . The probe was manufactured by the European Space Agency ( <http://www.esa.int> ) with their corresponding Cassini-Huygens site located at <http://www.esa.int/SPECIALS/Cassini-Huygens/index.html> .

Saturday, January 15<sup>th</sup>, 7:30 PM; Mark your calendars!

## ***At the Institute***

### CG-14

The situation regarding Custer's CG-14 is resolved as follows: Dismantling of the instrument with corresponding return to manufacturer for repair, calibration or adjustment has been put on hold until the actual problem, if any, has been ascertained. As it stands now, the instrument's guidance system is unstable. Proposed remedies include reflashing of firmware with manufacturer's code that is certified for production release, factory reset of guidance internals after firmware flash, dynamic balancing and a polar alignment. Something as valuable as this instrument is to Custer should be handled with the utmost care. Indiscriminate experimentation or the use of untested or uncertified software or firmware should only be considered as a last resort and then, if need be, only installed by individuals certified to do so.

### Radioactive Lens Not a Health Threat

The Suffolk County Board of Health has given Custer's primary facility a clean bill of health. An inspector from Suffolk's Board of Health came and inspected the entire building, specifically the basement where a canister marked 'Radioactive, Keep Away' was discovered. The canister contained a special lens coated with a radioisotope that gave off about as much radiation as one would receive from the sun on a cloudless day in July. Apparently, the 'Radioactive, Keep Away' warning was a prank left over from the boyhood days of some of Custer's more prominent members. A question begs asking: Why did this finding cause everyone involved to go to DEFCON 5, with a corresponding thread on the Yahoo board that lasted no less than 3 days, an alert to be sent to the Suffolk County Board of Health, all without consulting the ranking members of the board, Custer's president or maybe even the persons responsible for the can and / or it's contents? Just wondering.

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## **CUSTER EVENTS CALENDAR**

### **OBSERVATORY DUTY**

Any staff on hand will be more than glad to assist in the operation of the telescope.

### **AT THE INSTITUTE**

Public observing every Saturday night, weather permitting.

**The Custer Comment**

**TOM MADIGAN, Editor  
CUSTER COMMENT**

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FOWARDING AND ADDRESS CORRECTION REQUESTED

**FIRST CLASS**