



October 03

Volume XXXIII, Issue 10

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The 25th Annual Custer Astronomy JAMBOREE

Friday, October 24th, 7:30 PM; Poetry, Wine Tasting & Music. Observing, weather permitting.
Saturday, October 25th, 9 AM; Southold High School. Guest speakers, Workshops, Displays, Solar Observing, Vendors, Raffles, & merriment. Keynote Speaker Saturday night.
Sunday, October 26th, 5:30 AM; Orient Point State Park. GREEN FLASH WATCH and guided Nature Walk.

If you have not received a flyer and wish to attend, please contact Barbara Lebkuecher at (631)-722-3850 weekdays from 1 to 5 PM or send an email to this editor.

Dark Skies Coming to Long Island?

Long Island Power Authority (LIPA) has agreed to immediately stop installing unshielded floodlights as part of their "NightLight" program. Instead, they will install Holophane's Mongoose fixture. For more details, please read the full featured articles inside.



Non-cutoff fixture to be phased out



Mongoose full-cutoff fixture

Electronic Version of the Custer Comment

Please send your email address to the editor to receive the Custer Comment electronically. Benefits include color images, active content and hyperlinks to supporting articles and documents, as well as instant delivery. Print only what you want with no torn or missing pages, to say nothing of the immediate cost benefit realized by Custer.

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Announcements & General Interest

TIME TO RENEW YOUR MEMBERSHIP

Custer's fiscal year and annual memberships end each June 30th. Check the top right of the address label on this copy of the Comment. If it says EXP 06/03 then your membership has just expired 6/30/03 and it is now time to send in your timely renewal so your continue to receive the Custer Comment uninterrupted. If the label says EXP 06/04, or later, you have already paid for the coming year. Make checks payable to and mail your renewals to CUSTER INSTITUTE, INC., PO Box 1204, Main Bayview Road, Southold, NY 11971, Attn: Membership. Remember, your membership renewal is tax deductible.

If you have chosen to receive the Custer Comment via the Internet, then you do not have a mailing label to remind you when your membership expires.

Yearly membership rates are: Students (to 18) and Senior Citizen - \$25; Individual - \$45; Family - \$60; Individual Sponsor - \$100; Lifetime & Corp. Sponsor - \$1000. Add a note to let us know of any address or home phone number changes and your Email address if you have one. Also indicate if you would like to receive the Comment via Email attachment.

Thank you, The Membership Committee

Editor's Column

<p>Tom Madigan, Editor Tom Madigan 99 North Summit Ave. Patchogue, NY 11772-2226 tmadigan@optonline.net 631-447-5339</p> <p>Cutoff for submissions is the 15th of the month preceding publication</p> <p>Visit the new Custer Website at http://www.custerobservatory.org</p>	<p>The Custer Comment is published monthly by</p> <p>Custer Institute P.O. Box 1204 Main Bayview Road Southold, NY 11971 631-765-2626</p>
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Re: LIPA Trustees approval of Tariff, eliminating Floodlighting on Long Island

New York's Governor Pataki should augment the leadership demonstrated by Ed Grilli and the LIPA Trustees and sign into law New York State Bills A6950 and S3003. These bills represent the will and aspirations of conscientious New Yorkers as earlier versions have been repeatedly vetoed by Mr. Pataki. Please read my Point / Counter-Point discussion on page 6.

Please send me your email address in order to *receive the Custer Comment electronically!*
 Enhanced content, including color images and links to supporting sites are only a few of the advantages.

Tom
Tom Madigan, Editor

Gift Corner & Classifieds

<p>We have meteorites.</p> <p>Great sets mounted in beautiful display cases. Perfect for gifts.</p> <p>New Custer logo coffee cups ONLY \$4 EACH</p>	<p>The Gift Shop still has a dwindling number of copies of ASTRONOMY FOR ALL AGES, by Philip Harrington & Edward Pascuzzi just \$20. As an added bonus, copies are signed by Ed Pascuzzi. We also have copies of PARALLAX, the book that was referred to in the recent lecture. Quantities are limited so hurry and add to your collection while supplies last.</p>	<p>For Sale Super C-8 Telescope, Richfield Finder, Tripod Wedge, Polaris Pointer, Polar Axis Finder, Case liner, Handle, Handbook-\$1307. No-tool knob set for C-8- \$12. Illuminated Reticle ocular assembly for C-8 including 12.5MM ocular rheostat-\$66. 2 inch Premium grade Deep Sky filter and 1 1/4 inch ocular adaptor-\$121. Observer's Chair with adjustable height-\$47. Rubber eyeguards (4)-12. Vernon mounted glass filters- neutral density, blue 80A, violet 47, light red-\$23A, green 58, orange- \$51. Adapter for Celestron 1 1/4 inch non-threaded oculars-\$10. Rich Field Adaptor with TeleCompressor and 20mm Erfle ocular-\$150. 8mm Brandon-\$69. 12mm Brandon-\$59. 2.4X Dakin Barlow- \$59. 25mm Kellner-\$28. 40mm Kelner-\$28. Declination Motor & Accutrack Telescope Drive Corrector, Dual Axis-\$199. Counter Weight set-\$30. Astronomer's Flashlight-\$7. Omni-axis Camera Mount-\$ 50. Accessory tray-\$30. Accessory Case-\$25. Helical Focuser-\$28. Dewcap-\$40. T-adaptor-\$20. Eyepiece projection adapter: teleextende-\$20. Best offer or \$1600 for the whole. Original cost \$2468. Contact Bill Richards at 631-957-2032, 98 Laurel Road, Lindenhurst, NY 11757-1705.</p>
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HEAVENLY EVENTS TO WATCH FOR October 03

“My neighbor keeps his porch light on,
I really don’t know why.
It glares at me the whole nite long,
Almost makes me cry.
He probably doesn’t mean to harm,
I’m sure he doesn’t know
How much that porchlight bothers me,
and I’m going to tell him so.”

-George Pitcovich

For the first 10-or-so mornings in October MERCURY can be spotted very low over the eastern horizon within the hour before sunrise. Don’t look for VENUS (except, perhaps, for the evening of the 26th.) MARS is found due south about two hours after nightfall this month. As we pull away from the red planet it fades rapidly (from -2.1 to -1.2 magnitude in October) and shrinks (from 21 to 15 arcseconds in diameter); therefore our opportunities for enjoying its surface markings are behind us by month’s end. By Halloween Mars sets in the west-southwest by 1:30 AM, shortly before JUPITER rises in the east. Find Jupiter low in the eastern sky beneath the sickle of

Leo before daybreak. Also, look high in the south to find SATURN among the stars of Gemini during the predawn hours. URANUS and NEPTUNE are still well placed for finding in the evening sky after dark; use a good star chart and binoculars or telescope.

- 3 Tucked away on the hindquarter of the centaur Sagittarius is a little kite-shaped group of four 5th magnitude stars known to the Chinese as Kow Kwo, the Dog’s Country. Two of these stars are being occulted by the waxing gibbous Moon this evening: ω (Omega) Sagittarii at about 8:31 PM and θ Sagittarii about 10:15 PM. Try seeing them disappear behind the darkened upper left edge of the Moon with your telescope.
- 5 Tonight and tomorrow tonight the gibbous Moon and Mars vie for attention. (Hidden in the glare, about 4° above Mars, is Uranus.)
- 10 Tonight’s full Hunter’s Moon decimates this year’s Draconid meteors.
- 11 Mars has faded to -1.8 magnitude, no longer brighter than Jupiter is in the predawn sky.
- 17 The waning gibbous Moon rises in the southeast above Saturn in the early morning hours.
- 22 The Orionid meteor shower should be at its peak in the early hours this morning, beginning by midnight. They arrive as the Earth plows through the general orbital path of Halley’s Comet. Face east, lie back and watch these fast ones, some of which are bright and leave glowing trains behind. Jupiter rises around 3:30 AM, and not long afterward the thin crescent Moon which shouldn’t spoil the Orionid display very much.
- 22 Retrograde motion ends for Neptune tonight.
- 24 Comet 2P Encke is at opposition not far from M31, the Andromeda Galaxy. It should brighten as it continues to approach us while heading westward into Cygnus.
- 25 Retrograde begins for Saturn tonight. Also, Daylight Saving Time ends tonight so set your clocks back an hour and enjoy that extra hour of sleep/stargazing. But be aware of the possibility of coastal flooding in the event of a storm, as the just-past-new Moon reaches perigee tomorrow morning.
- 26 Right after sunset, scan the western horizon for a pairing of Venus with a very slim crescent Moon.
- 28 Algol, β Persei, is in mid-eclipse at 11:49 PM, and again at 8:38 PM on the 31st.
- 30 On this evening in 1938, 65 years ago, Orson Welles provided his radio presentation of “War of the Worlds”. Most of the people who tuned in to that program are gone, but the legend lives on.

- Prepared by Robert Chapin

PRESIDENT'S MESSAGE

By now, the final arrangements for the 25th Annual Jamboree have been completed. It promises to be another excellent Jamboree and bigger than last year. Friday night's events are at Custer but we are returning to the Southold High School on Oaklawn Avenue for Saturday's programs. This will allow the reintroduction of the classroom Astronomy Workshops that were so popular in the past.

Everyone who's membership expired back on June 30th, the end of Custer's fiscal year, have been sent a renewal reminder. Please complete the form and return it as indicated, along with your dues payment. This will guarantee uninterrupted receipt of the Custer Comment and membership reinstatement. Those who have not renewed by the end of October, will be dropped from the Comment mailing and email lists and the membership rolls. So don't procrastinate.

The Dome Replacement Fund Raising is proceeding well and a "Thermometer" progress sign has been put up near Custer's front door for all to see. Everyone's help is greatly needed in this effort. If anyone has experience in writing Grant Requests and would like to help the institute, please call me at 631-218-2350 ASAP.

Bob Vanson

WELCOME TO OUR NEW OR RETURNING MEMBERS

Michael Pontacolone of Holbrook, Mary Ella Reutershan of Greenport, James Hills of Greenport, Jayne Galo of Babylon, John Gruosso of Southold, the Constance Connor Family of Mattituck, the Karl Spielmann Family of Peconic, the Robert DeSimone Family of Mattituck, Tony Wang of Levittown, Christian Stamos of Mastic Beach, the Elizabeth McMillan Family of East Hampton, Dr. Albert Sacknoff of Plainview, the Chris Showalter Family of Cutchogue, Jan Andrews of New Suffolk, the Karl Schmidt Family of Garden City, the Georianne Jackofsky Family of Rocky Point, Karl Washwick of Riverhead, and Shirley Darling of Southold. **OUTSTANDING!**

Welcome one and all!

Editorial

Light Pollution, a Point, Counter-Point Discussion.

Point by Michelle McColgan

Michele W. McColgan is a lighting scientist at the Lighting Research Center at Rensselaer Polytechnic Institute's School of Architecture.

Newsday Viewpoints, October 14, 2001

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Legislation to reduce night glare is noble, but not practical

THE TOPIC OF light pollution has received a lot of attention of late. A New York State bill that passed both the Senate and the Assembly and awaits the signature of the governor is a result of this new public awareness of, and concern about, outdoor lighting. Similar local legislation is also pending.

But the media coverage of these proposals often lacks discussion about why municipalities, businesses and individuals choose to use light in the first place.

Although no one would agree that we should cause light pollution and waste energy, the question must be asked: Why do we use electric lighting? The easiest way to avoid light pollution is to eliminate lighting altogether, as some would propose.

But we light our outdoor nighttime environment to meet certain necessary societal goals. These include increasing safety and security, enhancing economic development, highlighting historic areas and landmarks, and sending messages.

Light pollution is defined in three ways: in terms of sky glow, in terms of light trespass, and in terms of glare. Sky glow is the brightening of the sky due to manmade lighting. It is usually objected to because it inhibits one's ability to see and appreciate the stars. Light trespass is light falling where it is not wanted or needed: Light from a streetlight or a neighbor's floodlight that illuminates your bedroom at night is an example. Glare is intense or blinding light. A good example is an unshielded fixture where the lamp can be seen.

The motivation to reduce the wasteful use of electricity resulting from inefficient and excessive lighting is noble. But, if signed into law, it will have many undesirable and unintended results, including decreased safety and security, conflicts with existing legislation, increased litigation, wasted energy and higher costs. This legislation takes design away from professionals who are trained to balance the societal goals of lighting with the desire to minimize wasted energy and pollution.

While headlights on cars provide forward lighting for the driver, streetlighting illuminates the roadway in order to show the driver changes in direction up ahead, obstacles in the way and roadway surface conditions. Remember the last time you were driving on an unlit, unfamiliar, winding road? It is difficult and tiring to drive on unlit, unfamiliar roadways, and streetlighting simply makes driving easier. A well-lit roadway puts less stress on a driver, allowing him or her to use their faculties to handle unexpected situations.

Streetlighting lights more than just the road, though. Walkways and adjacent areas also benefit. Pedestrians, cyclists, children playing in the front yard and other non-motorists are more readily seen with streetlighting. Lighting that illuminates intersections allows oncoming drivers to see other vehicles, as well as pedestrians and cyclists.

Safety is considered an urgent need, and light levels can be a matter of life and death. There are also laws that require certain types of light, such as at automatic-teller machines. Often, lighting to higher levels than the minimum is criticized. But this is sometimes required in order to maintain minimum light levels.

Do to space limitations, I cannot reproduce Michelle's entire article here. To read it in its entirety, browse to http://tmadigan.home.netcom.com/custer/lightpollution_point.htm .

Counter-Point by Tom Madigan

Michele,

As a life-long amateur Astronomer and member of the Astronomical Society of Long Island, telescope maker, former teacher, lecturer and technician at the Vanderbilt Planetarium as well as a graduate of S.U.N.Y., Stony Brook with a BS in Physics, Astronomy and space science, I read your article with interest, published in today's Newsday (14 October, 2001). In the 3rd paragraph of the article, after stating that no one would intentionally create light pollution and waste energy, you ask the question, "...Why do we use electric lighting?" You answer that question and base the rest of your article on, perhaps, the most untenable and unreasonable answer, an answer that no one, not even the most staunch light pollution crusader, would accept. No one is suggesting that all outdoor lighting be eliminated; indeed there is a definite need for same, from security and safety, to aesthetic and commercial reasons.

Light Pollution, at it's core, is the result of *lack of education*, not to mention the collusion between utility companies and those who manufacture the luminaires (GE, etc.), both of whom have a real, vested interest in the ignorance of the general public. The myth that turning night into day is in the public's best interests is very pervasive and appeals to a basic, irrational fear of the dark. In fact, studies have shown that the crime rate remains basically fixed over a broad range of lighting levels and actually rises at the level where the flux density is approximately equal to that of daylight. The outdoor lighting here actually aids the criminal in his/her activity!

You spend a lot of newsprint expounding the virtues of street lighting, night-time driving, your comfort level with and without street lighting, etc. I don't know how long you have been driving, but my reaction to a brightly lit roadway compared to a dark, unlit road is EXACTLY opposite. Unless a driver doesn't know where they are going or is challenged with navigation, a dark, unlit road is physically less stressful and allows the eye's natural acuity to work to the advantage of the driver. This is not opinion, but an empirically provable, scientific fact. The varying flux levels caused by the spacing of overhead luminaires without a full, horizontal cutoff is what causes eye fatigue and night blindness. This is not to say that we should eliminate all street lighting; just the opposite. A well designed lighting fixture is an efficient lighting fixture. In these days of rising energy costs, this is a welcome benefit.

Strategically placed shrouds and shields with a full horizontal cutoff concentrate the light on the ground where it is needed, requiring fewer fixtures to be installed. This design allows the eye to adjust naturally to the surroundings while preventing night blindness, commonly caused by "brute force" outdoor lighting so widely used. Aggressive, inefficient street lighting is arguably a public health threat in that it may well be the cause of automobile accidents brought on by night blindness. By using efficient, fully shielded street lights, no night blindness occurs, the beauty of the night sky is preserved, energy costs are minimized and the public interest is served as well.

Some of the new shopping areas recently built use full cutoff lighting fixtures with an eye to aesthetics and the sensibilities of the local community. These shopping areas are a pleasure to see and to patronize. An intelligent, well planned outdoor display is a pleasure to witness and will attract would-be patrons. I've seen the entire spectrum here from garish, offensive displays that actually repel to a display that is subdued at best. What's more, any commercial display should conform to the aesthetics and sensibilities of the local area and design a display accordingly. A garish, brightly lit mall in a rural area is offensive and inappropriate.

Another point you made needs to be addressed: How will any legislation conflict with existing, local or regional regulations or statutes regarding outdoor lighting. The last time I checked, our system of government requires enforcement of the statute originating from the highest governmental authority in scope. Any regional or local statutes or regulations would have to be modified to conform to the State statute. To argue that we cannot legislate or regulate outdoor lighting because we have local or statutory guidelines is ridiculous. My response to your assertion here is that, this is a work in progress. Any legislation has to be crafted to allow for local concerns or statutory guidelines. It is naive to assert that any legislation will take design away from so-called professionals. I've spoken with some of these "professionals" and the overriding attitude is that more is better. I haven't seen the draft legislation, but I'm sure their input will be required. Finally, it was heartening to read your closing paragraph where you affirm that *awareness and education are key to addressing this issue*.

Editor: This reply was never answered or acknowledged by either Newsday or McColgan.

PRESS RELEASE

Dark Sky Society

East Hampton, NY 11937

September 25, 2003

LIPA Trustees approval of Tariff, eliminating Floodlighting on Long Island:

We are delighted with the news that: as of this date, LIPA will no longer provide unshielded "Turnpike" style GE floodlights to commercial, institutional, and municipal customers. This particular fixture has contributed significantly to energy waste, sky glow, light trespass, and glare, because, among other problems, it is "unshielded". There are over 16,000 of these on Long Island, and they are one of the major reasons that we experience the sickly orange urban "glow" which unnecessarily obliterates our view of the stars.

The new replacement fixture, the Holophane "Mongoose", is fully shielded and directs all its light onto the ground where it is useful, and less wattage is needed to light the area. As this fixture is introduced: to new customers, as a replacement for broken floodlights, and as businesses change hands, we will start to see significant changes in our nighttime environment. When used properly, (i.e. with the right light levels and positioned correctly) use of this fixture will significantly reduce "sky glow", light trespass, and glare. Employees and Salesmen for the Nightlight Program are undergoing training to assure proper installation.

Many groups and many individuals, over many years, have approached LIPA to change this floodlighting program. Development of a fully shielded fixture by a manufacturer was crucial.

As well as wide public support, the pending New York State Bills A6950/S3003, calls for public entities to ONLY install fully shielded, High Intensity Discharge fixtures. The Sustainable Energy Alliance, "Energy Plan for Long Island" calls for this change, and as well, numerous civic, church, and environmental groups, and the municipalities of East Hampton and Riverhead.

As we know, LIPA is a public utility, and is answerable to all the citizens of Long Island. This fixture introduction will be widely appreciated, and will set an example to other utilities across the country with similar problems from their "dusk to dawn" commercial lighting programs. LIPA is the first utility to institute this important innovative change.

We thank LIPA, as will generations to come, who want to see the ground and the stars better at night.

Dark Sky Society: *Supports educational and legislative efforts to eliminate light pollution: i.e. glare, light trespass, and 'up' lighting by unshielded, misplaced, excessive, or unnecessary outdoor night lighting in order to conserve energy, maintain our desirable community character, safeguard our wildlife, and restore our view of the starry night sky.* <http://www.darkskysociety.org> .

Thank You

The President, board and membership of Custer Institute wish to add their voices in thanking Ed Grilli, LIPA Chief of Staff and the LIPA Board of Trustees for their courage in implementing this landmark decision. We also wish to recognize Richard Kessel, LIPA Chairman for his stirring remarks, Custer's very own Susan Harder, Gary Citro and Gail Clyma, a member of the NY State IDA (<http://www.darksky.org>) affiliate, SELENE (<http://www.selene-ny.org>). Thanks also to Suffolk Life for carrying the story in this week's edition: http://www.zwire.com/site/news.cfm?newsid=10245135&BRD=1776&PAG=461&dept_id=6365&rfi=6 . This is a gift to our progeny and a major step in protecting Long Island's environment, adding to its appeal and restoring its once ideal location from which to observe the night sky in all its grandeur.

Editor: New York's Governor Pataki should augment the leadership demonstrated by Ed Grilli and the LIPA Trustees and sign into law New York State A6950 and S3003. These bills represent the will and aspirations of conscientious New Yorkers as earlier versions have been repeatedly vetoed by Mr. Pataki.

TOTAL LUNAR ECLIPSE

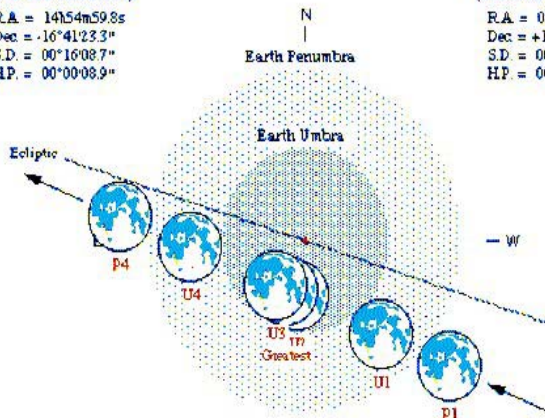
Total Lunar Eclipse of 2003 Nov 09

Saturday
Nov. 8, 2003
6 pm

Geocentric Conjunction = 00:57:13.2 UT J.D. = 2452952.539736
 Greatest Eclipse = 01:18:31.0 UT J.D. = 2452952.554525
 Penumbral Magnitude = 2.13984 P. Radius = 1.1945° Gamma = -0.43213
 Umbral Magnitude = 1.02185 U. Radius = 0.6455° Axis = 0.38931°
 Saros Series = 126 Member = 45 of 72

Sun at Greatest Eclipse
(Geocentric Coordinates)
 R.A. = 14h54m59.8s
 Dec = -16°41'23.3"
 S.D. = 00°16'08.7"
 H.P. = 00°00'08.9"

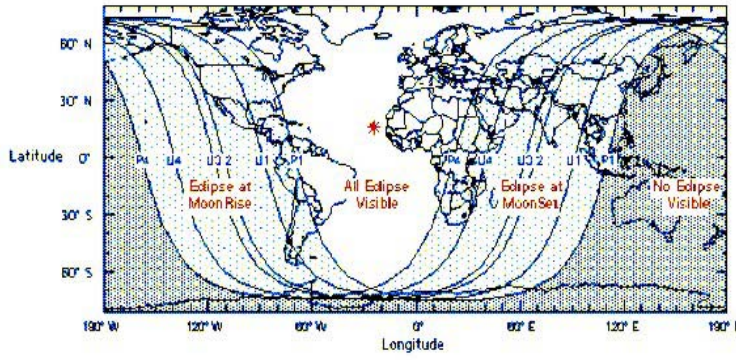
Moon at Greatest Eclipse
(Geocentric Coordinates)
 R.A. = 02h55m37.0s
 Dec = +16°19'47.9"
 S.D. = 00°14'43.8"
 H.P. = 00°54'03.6"



Eclipse Semi-Durations
 Penumbral = 03h03m24s
 Umbral = 01h46m01s
 Total = 00h12m10s
 Eph = Newcomb/LE
 ΔT = 66.4 s

Eclipse Contacts
 P1 = 22:15:08 UT
 U1 = 23:32:29 UT
 U2 = 01:06:20 UT
 U3 = 01:30:41 UT
 U4 = 03:04:32 UT
 P4 = 04:21:56 UT

F. Espenak, NASA/GSFC - Tue, 1999 Jun 01



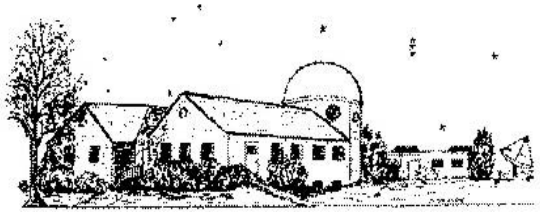
On Saturday Nov. 8, 2003 the moon will be eclipsed. The total lunar eclipse will be visible in North and South America, Europe and Africa. The eastern portions of the US will see the entire eclipse, while the central and western areas will see the moon rise with the eclipse already having begun. Here at Custer we will be lucky enough to be able to view the entire eclipse. The Penumbral portions of the eclipse are not very exciting it is the umbral parts that you begin to see noticeable changes in the moon. This part also called the partial eclipse begins around 6:30. Come and join us for some eclipse fun!.



Upcoming Programs

Saturday December 13, 2003 - Custer Holiday Party. Covered dish dinner with the main course of Turkey and Ham being provided. Bring a side dish or dessert and an appetite.

Directions: LIE (495) Exit 73 east Route 58 becomes Rt. 25. Follow 17 miles east, make sharp right at Gulf gas onto Main Bayview Rd. Custer is ¼ mile down on left.



Custer Institute
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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; Oct 4^h 11^h 18^h and 25^h.

The Custer Comment

TOM MADIGAN, Editor
CUSTER COMMENT

99 North Summit Avenue
PATCHOGUE, NY

11772

FORWARDING AND ADDRESS CORRECTION REQUESTED

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