



First Light

The Newsletter of the Cape Cod Astronomical Society



April, 2013

Vol.24 No. 4

Do you know what this is?

www.ccas.ws
Cape Cod Astronomical Society

Were all about stargazing. Let's look at the Night Sky!

Click Here!

- Home
- About Us
- Contact Us

Star Party & Activities Info
Latest Issue of Newsletter
Older Newsletters Minutes

Welcome to the Home of the Werner Schmidt Observatory

We *DO* hope you can join us soon at the WSO to learn about and enjoy the night sky!

This is the place to come to find out about:

- Upcoming Star Parties and related Activities (*SEE BUTTON upper left*)
- Speaker Topic for this month
- What great things happened at the Dome last month
- Big things coming in the sky this month
- Feature Story of the month
- Astrophoto of the month
- Interesting weblink of the month

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Never fear. That site still exists.

We are in the process of building a simpler and cleaner "front-end" to our website. When completed, this page and its subpages will contain simple layouts for the items listed at left. Meanwhile, to get items you could formerly find at "www.ccas.ws", please click on the words below; NOTE: Please give the old page time to load. When fully up, it runs as of old. If you go to a subpage, a click on any "Home" button returns you to the NEW home page; use BACK on your browser to go back to the old

["Old Website"](#)

You can see a much clearer (and active) version online.

Please go to www.ccas.ws and play with all the button and links.

Story on page 4.

Next Monthly Meeting: is Thursday, April 4th, at 7:30pm. [This meeting will be held in the Pauline Hopkins Art Gallery at the DY High School, not the library.](#) Mike Hunter, Bernie Young and colleagues will present an update on "The State of the Observatory" at this meeting. Public welcome. Please join us.

Reminder: The next "Half-Moon Saturday" Star Party is scheduled for April 20th. More information on page 3.

In this issue: Renewing Our Website / CCAS in North Carolina / April meeting in the Art Gallery / Notes on an Observing Session / Who Are We? / ...continuing tips on Operation of our 16" Schmidt-Cas / Space Animal /

Bright New Stars:

We are pleased to welcome Thomas W. Engle of Durham, NC to membership in CCAS. Tom may very well be the first member of CCAS living in North Carolina. Tom has been a "Friend of CCAS" for many years and for many years has been listed on the "Friends" emailing list for *First Light* each month. This month Tom sent CCAS a check for \$50 with a note that said:

“This is for the Star Watchers. Actually I feel guilty about reading the newsletter for free and **hope to shame people into paying their dues.**”

(Any of you members not yet paid up for the 7/1/13 - 6/30/14 cycle, please take notice.)

Tom agreed he would like to have the check considered dues rather than a contribution. That will carry his membership well into 2015. Thank you, Tom Engle. And again, welcome to CCAS!

We like to profile new members in our Society in this section of *First Light* each month. If you are a new member and have not yet been so recognized, or might have new information for us (background, astro equipment preferred, interests, etc.) on yourself or someone else, please let us know (email info@ccas.ws).

PLEASE CONSIDER SUBMITTING AN ITEM OR ARTICLE FOR PUBLICATION IN *FIRST LIGHT*.

CCAS News Items and Current Events:

CCAS Meetings:



PLEASE NOTE: Our April 4th meeting will be held in the **Pauline Hopkins Art Gallery at the DY High School, not the library.** We expect signs will be posted in the halls to help all find that location.

Many thanks to former CCAS president Gary Derman for his excellent presentation, “**Where is that star?**” at our March 7 meeting. Gary explained much of the mechanics by which automated telescopes with Go-To electronics locate the thousands of stars and other celestial objects in their databases and “stay on target” during observations.

At our meeting on April 4th, Mike Hunter, Bernie Young and colleagues will present an update on “**The State of the Observatory**”. (Joel Burnett, Director of our Observatory, originally scheduled to lead this discussion, has another commitment.) The presentation will include an overview on recent improvements in equipment,

procedures and capabilities, notes on recent gatherings at the Dome, and research topics.

Recently joined member Harvey Patachnik will speak on “**Design and Building of a Home Observatory**” at our May meeting.

We are pleased to announce that Hans Moritz Günther, a Post-Doctoral Researcher at the Harvard-Smithsonian Center for Astrophysics has agreed to speak to us at our June 6th meeting on “**Star and Planet Formation and How We Found Out What We Know Today.**” Moritz promises to highlight some of his own research work and to overview how HSCfA folks use the Hubble Space telescope and process data therefrom to extract information of scientific value. He received his PhD in Physics from the Hamburger Sternwarte (Hamburg Observatory) located at the University of Hamburg in northern Germany. His primary research is on young, low mass stars using X-ray and UV spectroscopy data from telescopes like Chandra, XMM-Newton and Hubble. Dr. Günther has focused on processes of accretion, high-energy emission, and other aspects of outflows, winds and jets involved in star and planetary system formation.

Mark your calendars: Larry Marschall, Professor of Physics associated with Gettysburg College, will speak on “**Wrong Way Planets and Other Strange Solar Systems**” at our meeting on July 11th. Dr. Marschall is the author of two books on astronomy: *GALILEO'S NEW UNIVERSE* and *PLUTO CONFIDENTIAL* and has taught courses in astronomy, physics, and science writing at Gettysburg. Whatever Dr. Marschall brings to CCAS is always interesting and informative.

Program planning is in progress to confirm speakers and topics for our meetings in August and thereafter.

Thanks to Mike Hunter, our Program Chair, for lining up these special topics and speakers; we also thank Gary, Mike, Bernie, Harvey, and Dr. Marschall for agreeing to present.

Members, PLEASE participate in the effort to recruit good speakers to present programs in astronomy and related sciences at our meetings. Please send any ideas or contact information to Mike Hunter, our Program Chairman. For sure he will follow up.

Or, even better, volunteer to give a talk yourself!

Minutes:

The minutes of our March meeting are on our website; click on the “Minutes” button at www.ccas.ws or go to <http://www.ccas.ws/minutes/ccasminutes030713.pdf>

From the Dome:

Think We Have Little New to Learn About Operating Our Meade 16”?

Following on the story here last issue, please see page 7 for a few more insights from Bernie Young into operation of our 16” Schmidt-Cassegrain telescope.

Think Again!

Reminder:

The next “Quarter-Moon-Saturday Star Party will take place Saturday **April 20th**, beginning at 7:30pm. Remaining dates this winter season are:

April 20

May 18

June 15

We are pleased to announce that the WSO Observatory will host a Star Party for members of the Girl Scouts of Eastern MA based in Brewster at 8:30pm on Tuesday, June 25th.

As always, “Private” group or individual observing sessions at the Werner Schmidt Observatory may be scheduled by contacting Observatory Director Joel Burnett at Joelburnett@comcast.net or sending an email to info@ccas.ws

**Our Society exists to promote observing!
Help us promote this objective by asking for
time at the Dome!**

CCAS has both 8” and 14” Dobsonian telescopes for loan to members. If you wish to borrow one of these ‘scopes, contact info@ccas.ws

April Observing:

Although still visible in the northwest with binoculars an hour or so after sunset, **Comet C/2011 L4 Panstarrs** has turned out to be one of those comets which *might* have been spectacular but turned out to be very ordinary. If you have binoculars, you should still be able to find it at

mag 6 in the northwest sky just below Cassiopeia; it’s about 15° altitude at 8:21pm on April 15th, an hour after sunset. It is now well to the north of the position of sunset.

Please see resources at *Astronomy Magazine*, April, pp 36-43 and *Sky and Telescope*, April, pp43-58, and Reference 5 for good guides to the April sky. See *Astronomy*, April, p41 and *Sky and Telescope*, April, p51, and Reference 6 for positions of the moons of Jupiter for April; timings for special phenomena of the moons of Jupiter (shadow transits, occultations, etc.) and timings for “the great Red Spot” of Jupiter can be found in *Sky and Telescope*, April, p52.

Highlights for April observing:

- **Jupiter** and its moons are still the main show in prime time: on April 1, the planet blazes in the sky a bit north of west at 44° altitude at 8pm.
- As Jupiter moves toward the sun, **Saturn** is ready in the wings: on April 1, the ringed planet rises at 9:14pm and is higher each night after that date.
- **The Lyrid Meteor Shower** peaks predawn on April 22. The Lyrid shower typically produces up to 20 meteors per hour at its peak, but, unfortunately, the Moon’s presence likely will cut that number in half. The waxing gibbous 12-day-old moon will be slowly lowering in the west in the early hours after midnight when the best of the meteors are occurring. Try to block the moon with a hill or a tree; in that time period, Lyra, the radiant point, will be near its zenith.
- Look for mag 8.4 **Vesta** at the foot of Gemini in prime time evening hours late in April; as a point of reference, Vesta is at altitude 18.3°, well above and to the left of Jupiter, at 10pm on April 29.

Minima of Algol: What better way to introduce yourself to the wonder and fun of observing variations in the brightness of “variable” stars than watching the dimming or re-brightening of the star Algol during a prime time occurrence of its dimming about once every three days.

This month, a minimum of brightness (mag 3.3 from mag 2.1) is reached at 11:17pm EDT on Friday, April 19th, and again, in prime time, at 8:06pm Thursday, March 7th; minima also occur 12:43am EDT on Thursday, March 28th, and in prime time at 8:06pm, EDT, on Monday, April 22. On the 22nd, Algol will be brightening after its minimum as dusk yields to dark.

Mooncusser's Almanac and Monthly Alert¹

APRIL 2013

Object	April 1 (EDT)	April 15 (EDT)	April 30 (EDT)
Sun	R: 06:22 S: 19:06	05:59 19:21	05:37 19:37
Moon	R: 00:48 S: 10:20	09:32 00:08	00:27 10:22
Mercury (dawn)	R: 05:28 S: 16:40	05:19 17:16	05:15 18:30
Venus (predawn)	R: 06:32 S: 19:08	06:16 19:42	06:04 20:19
Mars (early evening)	R: 06:34 S: 19:22	06:04 19:22	05:32 19:21
Jupiter (all nite)	R: 09:14 S: 00:09	08:27 23:26	07:40 22:41
Saturn (predawn)	R: 21:14 S: 07:52	20:14 06:54	19:09 05:52
Uranus (evening)	R: 06:18 S: 18:46	05:25 17:54	04:28 16:59
Neptune (early evening)	R: 04:59 S: 15:50	04:05 14:57	03:06 13:59
Pluto (early evening)	R: 01:58 S: 11:38	01:03 10:43	00:03 09:43

Anyone having an interest in monthly **Libration and Declination Tables for the Moon**² during this month please contact your editor for information or sources.

Moon Phases, April, 2013

Last QTR Wednesday, April 3rd at 12:37am EDT

New Moon Wednesday, April 10th at 5:35am EDT

First QTR Thursday, April 18th at 8:31am EDT

Full Moon Thursday, April 25th at 3:57pm EDT

Do you Know what this is?



Please see page 1 for bigger image
or go to www.ccas.ws to see the real thing.

What it is...

We won't beat about the bush. What you see on page 1 is an image of the new main home page for the CCAS website, www.ccas.ws. Here is a paraphrase of the text in the main blue box on the new home page:

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When you asked for "www.ccas.ws" you may have been expecting to see the "old CCAS website" with the gold on black print, rocket with payload, green box, etc. Never fear. That site still exists.

We are in the process of building a simpler and cleaner "front-end" to our website. When completed, this page and its subpages will contain simple layouts for the items listed just below (and many others to come.) Meanwhile, to access items you could formerly find on the "old website", please click on "**Old Website**" (takes you to the former main home page.)

NOTE: Please give the old page time to load. When fully up, it runs as of old. If you go to a subpage, a click on any "Home" button returns you to the NEW home page; use BACK on your browser to go back if no "Home" button exists.

Here is the (evolving) list of items you can/will be able to access; items in blue are active now:

- [Upcoming Star Parties and related Activities \(SEE BUTTON upper left\)](#)
- [Latest Issue of the Newsletter](#)
- [Older Newsletters](#)
- [Minutes](#)
- Speaker Topic for this Month
- What great things happened at the Dome last month
- Big things coming in the sky this month
- Feature Story of the month
- Astrophoto of the month
- Interesting weblink of the month

[In each case you can return to our new "front page" by either using a "Return" or "Home" button or by using the "back" arrow on your browser]

Give it a try. The "button" buttons take you to the items noted just above. Other "plain text" buttons (a work in process) take you to "model" subpages. The key "**Old Website**" plain text button takes you to the existing main "old" website.

Where we came from...

OK. Before we go a step further, let's recognize the role our former long-time President Tom Leach played in creating our excellent existing website from 2007 until 2011. The "old" will remain the heart of www.ccas.ws for a very long time. Thank you Tom, for the huge effort you put into building what we have and the broad expertise you put into creating our website. We look forward to your input on our new effort.

Where we're going...

So why the new "front end"? As explained in an email sent out to all CCAS members on March 3rd, the CCAS Executive agreed some weeks ago, after some deliberation, that we might improve our website by building a new "front-end" which has, among others, the following characteristics:

- has a cleaner appearance
- provides buttons opening pages or links *most frequently accessed by users*
- has subpages designed to facilitate regular updates in data content *with substantially increased participation by many members.*

Our hope in this regard is to create mechanisms which allow quick and easy periodic (monthly?) updates of certain data elements by the webmaster using, as input, simple text files or pdf images **prepared by many different members**.

Webmaster? Who might that be? Well your *First Light* Editor has agreed to take on that task, at least for the present.

The *quid pro quo* is that, over time, many items now appearing in *First Light* will soon be found with a simple click on certain buttons on front pages of the new website. Over time, if members are willing to help, the content of *First Light*, as we know it, will be written/composed by a team each month rather than one person.

For example, information on upcoming events and Star Parties at the Dome will be composed periodically by Joel Burnett, Director of our Observatory and/or his colleagues at the Dome, not your Webmaster/Editor. Likewise, reports on important events that have taken place at the observatory or in outreach will come from Dome staff directly to the website by way of the webmaster.

Other possibilities... How you can help...

- We hope to find a member or members who would like to send in notes on upcoming meetings and speakers, overviews of last month's meeting presentation, minutes of meetings of the Executive Committee, etc.
- Maybe one member might have an interest in being a focal point for receiving and sending the webmaster an "Astrophoto(s) of the Month" each month.
- Finally, in the area of "What's coming up in the sky each month," interested members might agree to write up their favorite targets for an upcoming month.
- Maybe a member or members will volunteer to send us *abstracts* each month on monthly upcoming sky events as described in resources such as *Astronomy* or *Sky & Telescope* or their websites.
- Maybe the Mooncusser's Almanac, tables for main moon phases, minima of Algol etc items will be collected each month on a page you can reach with one click. Maybe someone might volunteer to prepare those elements.

As was always true for *First Light* and as was always true for the "old" website, the objective is to provide practical and educational information for our membership and friends on a continuing and regular current basis. Please exercise the new tools and buttons as they appear on the new "front pages," and give us feedback.

What do I like? What not? If you would like to request a special page devoted to a certain topic, for example, "Interesting targets on the moon", let us know.

But more importantly, do consider volunteering to compose information in the many areas already mentioned or maybe some new ones. We promise that we will not bog you down in website mechanics. We're talking about submitting plain text, sometimes a pdf file, and sometimes an image or images. If you send a Word document containing images, we know how to convert that to something html can format in a way similar to your model. We'll work it all out as we go along.

Input, questions, comments...please send an email to info@CCAS.ws .
Thank you.

Thanks to Mike Hunter for sending this enjoyable observing story to *First Light*

An Observing Session

I had an interesting observing session several nights ago, on March 19. We were preparing for a dinner on the patio; the temperature was still in the mid 70's even though the clock was getting close to 7:30. I was waiting for the rest of our group to come outside when I noticed the first quarter moon in the north-northwest about a third up the sky from the horizon. The sky was still bright enough so that none of the other astronomical objects were visible; and, the

metropolitan light pollution was not a factor. The moon was very bright with the terminator almost straight through its disk's center.

I quickly got out my 15x70 binoculars to try and see the old moon alongside the new moon. At first I could only imagine the outline of the old moon. In a few minutes, I could just make out the outline of the old moon. It made a real pretty picture. It was then that I saw a fairly bright star really close to the dark edge of the moon. It was not visible to the naked eye. A quick look into Sky Safari on my iPad showed the star to be Zeta Tauri.

Just as our 7:30 dinner was being served, I realized that the moon was about to occult Zeta Tauri. What a lucky day, a fine dinner under the stars and a lunar occultation to boot. So I began to eat. Take a bite and look at the moon, take a bite and look at the moon. It became readily apparent that sequence of looking at the moon, lowering the binoculars, and looking at the time shown on the iPad (regulated by GPS) took two seconds. So I continued to eat and observe.

As the minutes went by, the magnified view on my iPad showed that Zeta was getting very close to the moon. The moon was slowly, oh so slowly creeping across the sky to the right, towards Zeta. I stopped eating at about 7:38. An eternity later at 7:38:43 Zeta blinked out.

I emailed my results to the Werner Schmidt Observatory with all pertinent data, including an estimated time error of +/- 1 second. The reply back confirmed that observed time was indeed one second from the predicted time.

What an evening! I had a great dinner and just as good an observation.

Mike Hunter

PS. What was the location of my observing session?

Who Are We?

A society like the Cape Cod Astronomical Society draws members and friends from a diverse group of people. All should be enlightened and amused to read the interesting profile on the ranks of amateur astronomers "Who are we?" by *Astronomy* magazine Senior Editor, Bob Berman. Bob starts off by defining "astronomer" as "persons contemplating the universe" and lists some of these names for diverse subgroups among us: The Professionals, The Telescope Makers and Gadgeteers (Bernie?), The Backyard Amateurs, The Beginners, The Photographers, The Sci-fi Crowd, The Nuts and the Visionaries, The Prisoners (?), The Cosmology Zealots, The Navigators, The People Who Don't Have a clue, and others. Small wonder we in CCAS don't all march to the same drum. Do read Berman's article (*Astronomy*, March 2013, p.11.) Food for thought.

...continuing tips on Operation of our 16" Schmidt-Cas"

Thanks to Bernie Young for sharing more tips on operation of our big "Go To" scope:

I found out that you do not have to align the scope every night if you use the Park Scope command from the Utilities menu. The next time you start it up, the Autostar shows Select Item/Object and you're ready to go.

However, you don't even need the Autostar. I tried turning on the power to the computer, GPS, etc., booting the computer, loading TheSky6 and THEN turning on the scope... and was able to link The Sky6 to the scope and control the scope immediately. Maybe that sequence is necessary, maybe not.

For those who weren't at the last meeting, I announced that the software and settings are all in *each* Autostar handbox, so if you change handboxes, the scope behaves according to the settings in the connected handbox, which may be different than you're used to. They are not stored aboard that big box of electronics below the fork mount. This may explain some things we've been puzzled about.

Check the alt and az zero dials each session. If they are way off, you should reset them and do a two-star align. If not, just start with TheSky as above.

There has been some talk about upgrading TheSky6 to TheSkyX. If we do this, we probably ought to get a new laptop to run it on, AND get TPoint software to run with it. The latter will build a multistar alignment (like the Gemini) . I think each package costs about \$250.

A Special Observing Experience at the Kennedy Space Center



Can you see him? A good ten feet long below the dry grass with his snout to the left.. Your editor had occasion to tour the Kennedy Space Center complex while on a visit to Florida in early March. This guy, well over 10' long, was sunning himself about 200 yards from Launch Pad 39A, one of two workhorse launch pads that were used over the years to launch both Apollo Moon Missions and later the Space Shuttle. A sister Launch Pad about a half mile away, LC39B is being refurbished for future missions of the Orion program. The gantries and mobile mover used until a year or so ago for the Shuttle program launches from LC39A are still intact and can be visited close-up at the KSC.

If you miss the Shuttle Program and worry about the future of our space programs, know that manned missions using new US spacecraft are not that far off. See <http://www.nasa.gov/exploration/systems/mpcv/index.html> for information on the in-progress Orion program. Construction is underway at KSC to ready LC39B for launches of the new systems.

**A PORTION OF THIS PAGE IS
INTENTIONALLY LEFT BLANK TO
REMIND ALL MEMBERS THAT
THERE IS ALWAYS PLENTY OF
ROOM IN *FIRST LIGHT* FOR YOUR
CONTRIBUTIONS**

Cape Cod Astronomical Society

President	Michael Hunter	508-385-9846
Vice President	Stanley Rivers	508-945-6126
Secretary	Charles Burke	508-394-9128
Treasurer	Peter Kurtz	508-255-0415
Observatory Director	Joel Burnett	508-221-7380
<i>First Light</i> Editor	Peter Kurtz	508-255-0415

Mailing Address: A. P. Kurtz, CCAS Treasurer, 34 Ridgewood Rd,
Orleans MA 02653

Cape Cod Astronomical Foundation

Chairman	Werner Schmidt	508-362-9301
Vice Chairman	Michael Hunter	508-385-9846
Director of R&D	Bernie Young	508-394-1960
Secretary	Ed Swiniarski	508-896-5973
Treasurer	Pio Petrocchi	508-362-1213
Observatory Director	Joel Burnett	508-221-7380
Observatory Phone Line		508-398-4765

The **Cape Cod Astronomical Society** meets at 7:30 pm on the first Thursday of every month in the library of the Dennis-Yarmouth Regional High School in Yarmouth, Massachusetts. Meetings are open to the public. Membership dues are \$30 for adults, \$15 for students in two year colleges and part year residents, and no charge for spouses or for students in K-12 schools.

REFERENCES AND NOTES FOR THIS ISSUE:

- 1) Information for The Mooncussers Almanac and Monthly Observing Alerts was extracted from Sky Events, Astronomy Magazine Online (Astronomy.com), Stargazing.net's Planet Rise/Transit/Set calculator (<http://www.stargazing.net/mas/planet2.htm>), *Astronomy Magazine*, *Sky & Telescope Magazine*, *Sky and Telescope Skywatch 2011*, and other sources. The *Observer's Handbook, 2010 and 2011*, published by The Royal Astronomical Society of Canada is also an important reference, particularly for information on lunar libration and declination and the minima of Algol.
- 2) Information on how Libration and Declination Maxima and Minima can make visible parts of the moon normally hidden was reviewed in the December2007-January2008 *First Light*. Quick recap: Max Long brings to view extra right side; Min Long, extra left side; Max Lat, extra north side; Min Lat, extra south side. Max Dec puts it high in our sky during its transit; Min Dec puts it low.
- 3) Algol is an eclipsing variable star in Perseus which has its brighter component eclipsed or covered by its companion once every 2.87 earth days. When the dimmer component is not eclipsing the brighter, Algol appears typically about magnitude 2.1; when eclipsed, magnitude 3.3 The minima usually lasts about two hours with two hours on either side to bring it back to mag 2.1. Good comparison stars are γ -Andromedae to Algol's west, mag 2.1, and ϵ -Persei to its east, mag 2.9.
- 5) Here is the web address for Astronomy Magazine's online "The Sky This Month" online for April <http://www.astronomy.com/News-Observing/Sky%20this%20Month/2013/02/Saturn%20struts%20its%20ringed%20glory.aspx> See also S&T resources online at <http://www.skyandtelescope.com/>
- 6) S&T's interactive Java utility for showing the positions of Jupiter's main moons for any date and time: <http://www.skyandtelescope.com/observing/objects/planets/3307071.html> :
for Saturn's moons: <http://www.skyandtelescope.com/observing/objects/planets/3308506.html>