



# First Light

The Newsletter of the Cape Cod Astronomical Society



June, 2014

Vol. 25 No. 6

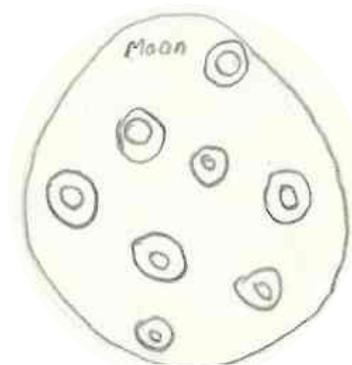
## Who Made These Sketches... Was it Galileo?



Jupiter?



Moon?



Please see story on page 4 to find out who made these sketches...

**Next Monthly Meeting:** is Thursday, June 12<sup>th</sup>, at 7:30pm. Please note that is the **SECOND THURSDAY** of the month. Bill Romanishin, Professor Emeritus of Astronomy at the University of Oklahoma, will discuss binary asteroids and their imaging. Public welcome. Please join us.

**Reminder:** The last "Quarter-Moon-Saturday" Star Party takes place June 7. Weekly Thursday Star Parties begin June 26<sup>th</sup> at 8:30pm, and continue weekly through end August. Please join us at the Werner Schmidt Observatory behind DY High School.

**In this issue:** Sketches by Galileo? / New Member / June & July Meetings on 2<sup>nd</sup> Thursdays / CCAS Election in July / New Dues Cycle starts July 1 / Venus and Ceres / "Every Planet" / Summer Solstice / Pluto Season

## **Bright New Stars:**

We are pleased to welcome Donald Poole of Brewster to membership in CCAS. Donald joined the society in mid May. Welcome, Donald!

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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](mailto:info@ccas.ws)).

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

## **CCAS News Items and Current Events:**

### **CCAS Meetings:**

Many thanks to Peter Kurtz and Mike Hunter for their excellent presentation on capabilities of the sky simulation program *Sky Safari* at our May meeting. Of special interest was Mike's overview of how Sky Safari Pro can be used to point a telescope at stars as dim as magnitude 18 which cannot be seen in the eyepiece but, after pointing and good tracking, can be found in astrophotographs assembled from multiple long exposures.

***SPECIAL NOTICE:*** BOTH THE JUNE AND JULY CCAS MEETINGS WILL BE HELD ON THE **SECOND (2nd) THURSDAY OF THE MONTH:** JUNE 12th and JULY 10th.

***SPECIAL NOTICE:*** THE ANNUAL ELECTION OF OFFICERS FOR CCAS WILL BE HELD AT OUR **JULY 10<sup>th</sup>** MEETING.

We are pleased to announce that Bill Romanishin will speak at our June 12<sup>th</sup> meeting. Bill is Professor Emeritus at the University of Oklahoma and is an expert at optical CCD imaging of astronomical objects using large and small telescopes and associated image processing. Bill will discuss binary asteroids and their imaging at our meeting.

We are also pleased to announce that at our July 10<sup>th</sup> meeting, educator Nancy Gifford of Harwich will introduce us to the NASA GPM (NASA Global Precipitation Measurement) mission and her work in that area. A Master Teacher, Nancy combines her work in the GPM field with teaching science at the Harwich Middle School. Her GPM work includes developing and piloting lessons and materials related to tracking global

precipitation.

We are hoping to have a return visit from Dr. Colin Bishoff for a presentation to CCAS later this summer. Colin is a post doc at the Harvard-Smithsonian Center for Astrophysics. You will remember the fascinating talk he gave us last year on studies of the Cosmic Background Radiation from sites at the South Pole. More info on Dr. Bishoff when details are worked out.

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We are looking for speakers for August and later meetings in 2014. Please let us know if you have any leads...

**or, even better, volunteer to give a talk yourself!**

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Thanks to Mike Hunter, our Program Chair, for lining up these special topics and speakers; we also thank the Observatory Staff, Mike, Larry and Gus for agreeing to present.

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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 or to [info@ccas.ws](mailto:info@ccas.ws). For sure he will follow up.

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***Reminder: The new CCAS dues cycle begins in July. Why not get ahead of the rush by bringing your check to our June meeting or mailing to CCAS, 34 Ridgewood Rd. Orleans MA 02653. Thank you.***

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### **Minutes:**

The minutes of our May meeting are on our website; click on the "Minutes" button at [www.ccas.ws](http://www.ccas.ws) or go to <http://www.ccas.ws/minutes/ccasminutes050114.pdf>

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### **From the Dome:**

The last "Quarter Moon Saturday" Star Party for the spring takes place at The Schmidt on June 7<sup>th</sup>.

**The summer schedule of weekly Thursday Star Parties at The Schmidt begin Thursday, June 26, at 8:30pm and will continue thru end August.**

**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](mailto:Joelburnett@comcast.net) or sending an email to [info@ccas.ws](mailto: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](mailto:info@ccas.ws)

### June Observing:

Mooncusser's Almanac and Monthly Alert <sup>1</sup>			
JUNE 2014			
Object	JUNE 1 (EDT)	JUNE 15 (EDT)	JUNE 30 (EDT)
<b>Sun</b>	R: 05:08 S: 20:08	05:05 20:16	05:09 20:19
<b>Moon</b>	R: 08:54 S: 22:53	22:11 08:27	08:39 22:01
<b>Mercury</b> (eve, then sun)	R: 06:29 S: 21:47	05:45 20:29	04:27 18:55
<b>Venus</b> (morning)	R: 03:27 S: 16:55	03:16 17:24	03:13 17:55
<b>Mars</b> (most of nite)	R: 14:46 S: 02:27	14:08 01:37	13:35 00:48
<b>Jupiter</b> (early eve)	R: 07:59 S: 22:57	07:18 22:12	06:35 21:24
<b>Saturn</b> (most of night)	R: 17:57 S: 04:15	16:58 03:17	15:55 02:16
<b>Uranus</b> (pre dawn)	R: 02:34 S: 15:21	01:40 14:28	00:42 13:30
<b>Neptune</b> (late nite)	R: 01:07 S: 12:07	00:12 11:12	23:13 10:12
<b>Pluto</b> (late nite)	R: 22:07 S: 07:43	21:11 06:46	20:10 05:45

Please see resources in June's *Astronomy Magazine*, pp 36-43 and *Sky and Telescope*, pp 43-58, and Reference 5 for good guides to the June sky. See p 41 in *Astronomy*, and pp 52 in *Sky and Telescope*, and also reference 6 for positions of the moons of Jupiter for June; timings for special phenomena of the moons of Jupiter (shadow transits, occultations, etc.) and timings for "the great Red Spot" of Jupiter can also be found on p52 in the *S&T*.

Here are observing highlights for June at Cape Cod:

- As highlighted in finder charts in last month's *First Light*, the big bright asteroids **Vesta** (mag 7.1) and **Ceres** (mag 8.4) approach one another well up in the evening sky in Virgo during June. By June 30<sup>th</sup>, they are within 0.5° of one

another. Watch them move closer and then begin to separate as July begins, a great binocular adventure.

- This is one of those rare times of year when you can see **every planet** at least some time of night at Cape Cod during June and often many at the same moment. Check out apparition times in our Almanac at left.
- The **summer solstice** takes place on June 23<sup>rd</sup> at 6:51am EDT. This is the longest day of our year. After the solstice, dawn begins to creep later and star viewing can begin earlier and earlier in the evenings.
- As the rise and set times to the left show, we are approaching a very good time of year to try and find mag 14.1 **Pluto** above Sagittarius through a good telescope. Pluto is dear to the hearts of most of the current generation of amateur astronomers even though it has recently been classified as only a "minor" or "dwarf" planet. As June progresses try to find our little dwarf. Take heart: it moves higher in the sky as the season progresses and if you can't capture it in June, you should have an easier experience in July and into the fall. Please see the excellent finder chart (May thru December) for Pluto and the story in June's *S&T*, p 50.
- Jupiter and its Moons** and **Saturn and its moons** continue to star in prime time in June.

#### Minima of Algol<sup>1,3</sup>, July:

Algol, a variable double star in Perseus, shines normally at mag 2.1 but once every 2.87 days dims to mag 3.4. The dimming is caused by the dimmer of two self-orbiting stars eclipsing the brighter as viewed from earth. There is one evening and one near-midnight occurrence of the Minima of Algol at Cape Cod during June: Wednesday, June 4, at 12:04am, and Sunday, June 6, at 8:53pm.

Using binoculars or a small telescope, try to begin viewing two to three hours before the minima to watch the dimming and up to two to three hours after the minima to watch the brightening.

Declination Tables for the Moon<sup>2</sup> during this month please contact your editor for information or sources.

#### Moon Phases, June, 2014

First QTR Thursday, June 5<sup>th</sup> at 4:32pm EDT  
**Full Moon** Friday, June 13<sup>th</sup> at 12:11am EDT  
 Last QTR Thursday, June 19<sup>th</sup> at 2:39pm EDT  
 New Moon Friday, June 27<sup>th</sup> at 4:08am EDT

# Who Made Those Sketches... Was it Galileo?

No. It wasn't Galileo.

It is remarkable how several of the sketches shown on our first page and others we received recently from Wixon Elementary School fifth graders and their teacher bear an uncanny similarity to sketches made by Galileo 400 years ago as he viewed earth's moon and Jupiter and its moons for the first time through his 50mm refractor telescope!

Here's the story. Teacher Cathryn Close and some 20 Wixon fifth graders and their parents visited the Schmidt Observatory for an introduction to the night sky on a clear evening on April 10<sup>th</sup>.

Joel Burnett, Director, and members Bernie Young, Charlie Burke, Joyce Burchsted, Gail Smith, and Ed Swiniarski of our Observatory Staff provided them with a wonderful spectrum of night sky opportunities: a flyover by the International Space Station, viewing of our Moon, Mars, Jupiter and its moons, and an overview of spring evening constellations among others.

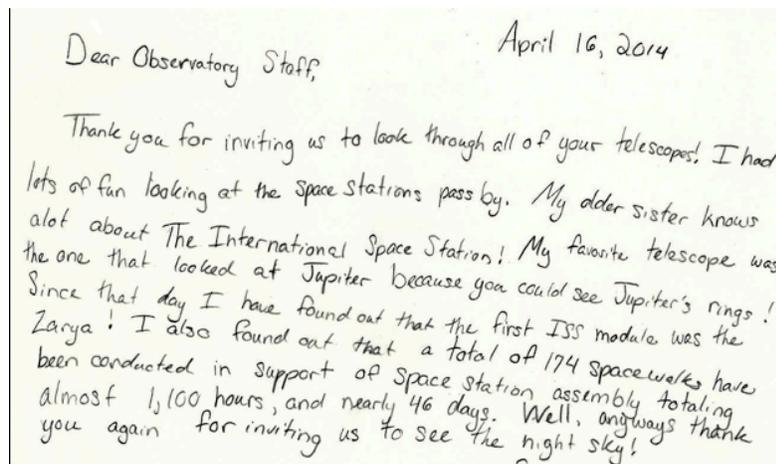
Sometimes folks visit The Schmidt and we really have no idea of what they took home from the experience.

Not this time!

Many thanks to Ms. Close and her students for sending about 20 handmade Thank You notes to Joel and his staff. Joel scanned these and made the images available to *First Light*. Thanks, Joel!

Much enthusiasm is evident from the images and text in the note cards including the sketches worthy of Galileo shown on our front page. It is clear from these renderings and some sentiments in selected clips (shown below and on the next page) that these kids had a very good evening at the Dome.

Kudos to Joel and his staff for providing such a complete experience and to Ms. Close and her kids for the time and effort they put into letting us know we did a good job. A great time all around!



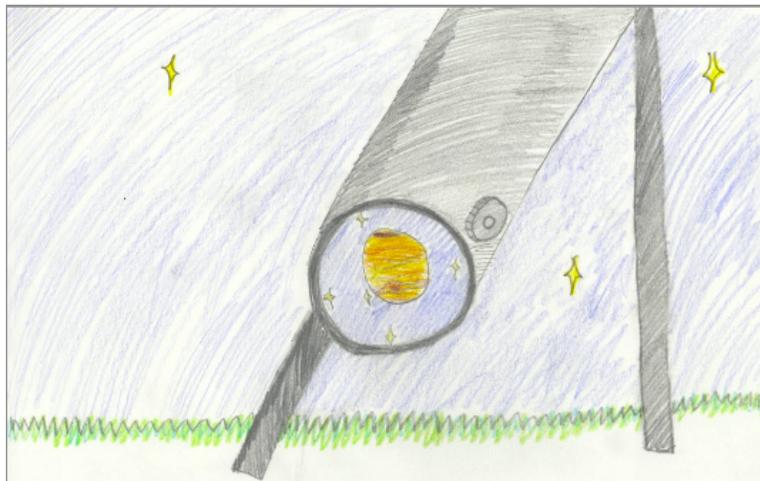
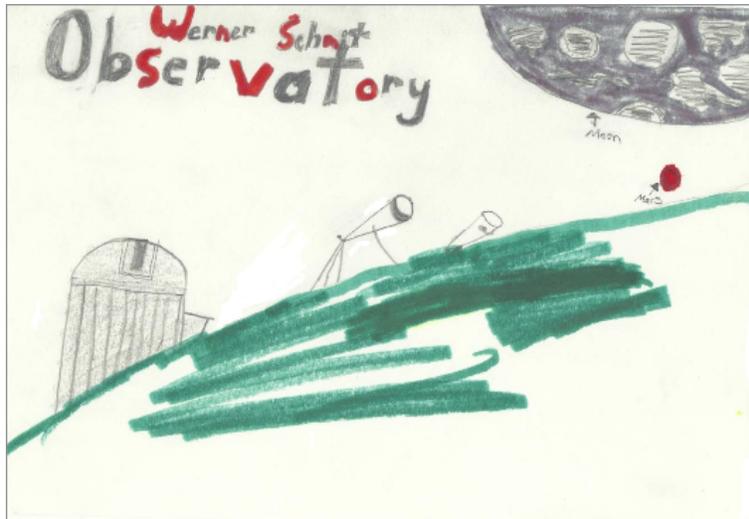
Dear Observatory Staff, April 16, 2014

Thank you for inviting us to look through all of your telescopes! I had lots of fun looking at the Space Stations pass by. My older sister knows alot about The International Space Station! My favorite telescope was the one that looked at Jupiter because you could see Jupiter's rings! Since that day I have found out that the first ISS module was the Zarya! I also found out that a total of 174 spacewalks have been conducted in support of Space Station assembly totaling almost 1,100 hours, and nearly 46 days. Well, anyways thank you again for inviting us to see the night sky!

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**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**

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## 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

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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.

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### **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 January2007-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  $\gamma$ -Andromedae to Algol's west, mag 2.1, and  $\epsilon$ -Persei to its east, mag 2.9.

5) Here is the web address for Astronomy Magazine's "The Sky This Month" online for June:  
<http://www.astronomy.com/magazine/sky-this-month/2014/04/plenty-of-pretty-conjunctions>

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>

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