



The Night Sky

The Newsletter of
The Astronomy Club of Akron

www.acaoh.org

Volume 39 Number 4

April 2017

Next Meeting: Friday - April 28, 2017 - 8:00 PM - Kiwanis

The Presidents Column

By Cathy Loboda

This issue of The Night Sky is the first of the now quarterly publication for ACA readership. At the March 24th monthly meeting, members voted to change the newsletter to a quarterly publication published in the months of January, April, July, and October. The newsletter's purpose remains to inform and educate its readership on the subject of astronomy. The rationale for this change is to allow time for contributors to submit substantial articles.

So I now offer an open invitation to those of you who have knowledge and passion to share. Please consider writing an article on any aspect of astronomy you choose. Deadline for submission is the 6th of the month the newsletter is published. Please let Marissa Fanady, our publication secretary, know which issue you are writing for and what subject you are writing about.

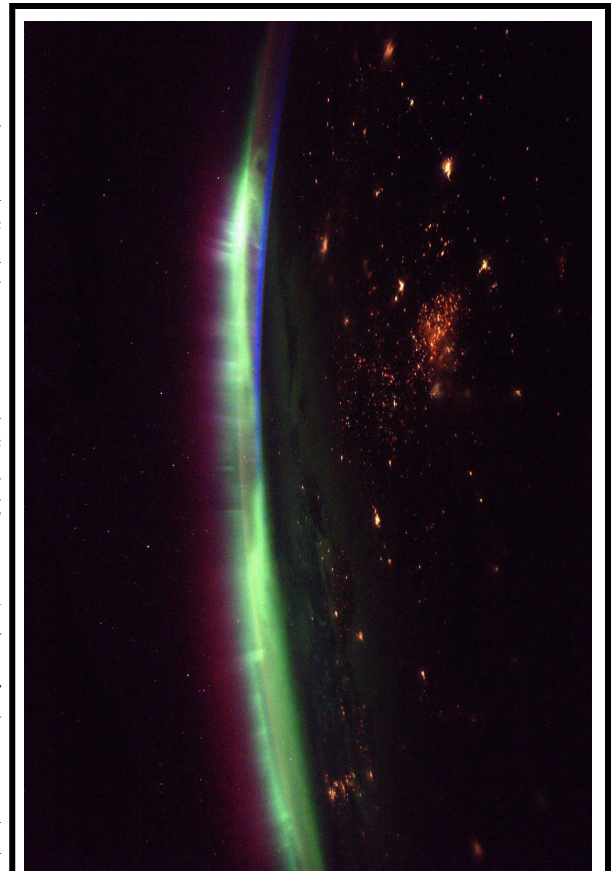
With the change of The Night Sky publication dates, all ACA members will now receive the monthly ACA News and Notes via email. This email will include club news, thank you memos, upcoming events, meeting minutes, and important information for members. Keep an eye on your inbox for this informational monthly email.

Astronomy Day is April 29th this year and traditionally ACA members participate in the event sponsored by the Cleveland Museum of Natural History. An invitation to be a part of their day was emailed early on but not received. To continue our support, a number of ACA members will set up displays at the CMNH.

ACA was also invited to take part in the Astronomy Day at the McKinley Museum in Canton. If you are interested in representing ACA in Canton, please contact Dave Jesse ASAP. It would be wonderful if we could support both events through club representation.

Due to Astronomy Day and key club members unable to attend, the Salt Fork star party scheduled for members on April 29th is canceled. To support an off-site star party, members who are able to transport and set up personally owned telescopes are a key element to its success. This is not possible on the 29th. The ACA Board apologizes for the oversight and will reschedule this star party when possible.

(con't page 4)



Expedition 50 flight engineer Thomas Pesquet from the European Space Agency (ESA) took this stunning photo of Earth from aboard the International Space Station (ISS) on March 27, 2017. Seen in this photo are beautiful auroras and islands of city lights dot the dark landscape. Image credit ESA/NASA.

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March Treasurer's Report

By Nick Mihiylov

3/1/2017 Through 3/31/2017

Checking Beginning Balance	\$1,714.13
Income	
Individual Membership	30.18
Family Membership	40.00
Total Income	\$70.18
Expenses	
Speaker Dinner	-67.78
Insurance - Property State Farm	-475.00
Total Expenses	-542.78
Income Less Expenses	-\$472.60
Checking Ending Balance	\$1,241.53
<hr/>	
Savings Beginning Balance	\$2,566.24
Earned Interest	0.04
Savings Ending Balance	\$2,566.28
<hr/>	
Petty Cash Beginning Balance	\$50.00
	0.00
Petty Cash Ending Balance	\$50.00
<hr/>	
Petty Cash	50.00
Savings	2,566.28
Checking	1,241.53
Grand Total	\$3,857.81

Article by Nick Mihiylov
ACA Treasurer.

SWAP & SHOP



FOR SALE:

Orion Sirius 40mm Plossl

Asking: \$25

Contact: Glenn Cameron

Phone: 330-737-1472

Email: glenn@cameronclan.org

FOR SALE:



Televue Radian 12 mm Eyepiece

- Excellent condition.

Asking: \$180 (cash)

Contact: Fred Fry

Email:

riverfry@gmail.com

FOR SALE:



Televue Radian 18 mm Eyepiece

- Excellent condition.

Asking: \$180 (cash)

Contact: Fred Fry

Email:

riverfry@gmail.com

FOR SALE:

Celestron CPC Deluxe 800 HD Telescope with tripod.

Accessories:

- Celestron 1.25" eyepiece and filter kit.
- Tele Vue nebula filter.
- Celestron UHC/LPR filter.
- Celestron 15mm 1.25" 82 degree wide field eyepiece.
- Stellarvue 1.25" Dielectric Diagonal.
- Stellarvue 1.25" erecting prism.
- Celestron power tank and dew shield.
- Astrozap sun filter.
- Celestron AC adaptor.
- JMI custom hard shell case for telescope.

All 8 months old, brand new condition.

Asking: \$2200

Contact: Jim Hall

Phone: 330-268-8695

FOR SALE:



Pentax XW 20mm Eyepiece

- Excellent condition.
- Small mark on 1.25" barrel.
- Always used in a compression clamp.

Asking: \$220 (cash)

Contact: Fred Fry

Email: riverfry@gmail.com

FOR SALE:

Celestron NexStar 8i computerized to go 8" F/10 Schmidt-Cassegrain

Focal length 2032 mm with 406x highest useful power.

Includes:

- GPS module.
- Five multicoated Plössl eyepieces.
- 2X Barlow lense.
- Seven filters.
- A/C adaptor.
- Night vision flash.
- Celestron star pointer.

All rarely used and in new condition.

Cost \$1,689 new.

Asking: Best Offer

Contact: Nick Bade

Email: nb@tribco.com

Phone: 216-486-2000 weekdays and

440-585-8687 evenings and

weekends.

Advertise in the Swap n Shop!

Send a picture of
your **ASTRONOMY
RELATED** item and
relevant information
to the newsletter
editor:

speedymissy@yahoo.com

The Presidents Column Con't

ACA has scheduled its annual members' picnic for Sunday, July 30th. Please mark your calendars and make an effort to attend. It is always good to get together. Observatory Director Ron Kalinoski has scheduled a wonderful season of star parties. Check the website for dates and times. Looking forward to seeing all of you at ACA events! Please support as many as possible.

*Article By Cathy Loboda
ACA President*

ACA Meeting Minutes March 24, 2017

Venue: New Franklin City Hall.

Attendance: 28.

Guest speaker: 8:00 Dave Jessie introduces Roy & Jodie McCullough of the Mahoning Valley Astronomical Society. 2017's Total Solar Eclipse.

Break 9:10 to 9:22.

Business Meeting: Called to Order at 9:22 by President Cathy Loboda.

Dave Jessie: VP's Report: Web site OK. Reminder, Stow's Fishcreek School is our ACA eclipse site on August 21st. We discussed ACA's participation in April 29th Astronomy Day. Dave Jessie addressed AOL emails bouncing, situation is being monitored.

Lew Snodgrass: read the minutes from February's meeting and the Board Meeting from February 26th.

Treasurer: Nick: ACA insurance paid, Nick negotiated extra coverage at no extra cost (Way to go Nick). ACA balance \$3885.17.

Observatory report: Ron absent.

Old Business: Discussion of Salt Fork, no resolution. All in favor of star party rules, no vote taken. Gregg Crenshaw mentioned the possibility of an eclipse party at the Akron Public Library main branch with E-glasses. Reminder of Camp Carl, June 2nd, set-up at 8pm.

New Business: Change of ACA Newsletter. Cathy moved to adopt a "Quarterly Newsletter" with abbreviated monthly "Cub Notes", Motion passed by voice vote with no objections. Move, to provide a link ACA web page in order to get our newsletter, rather the emailing the newsletter. Passed with a voice vote.

ACA picnic, tentative, 2nd or 3rd Sunday in August.

Lew Snodgrass mentioned the Akron Public School would like to have us back for another Astronomy Day April 26th from 10a -2p at Firestone High School. Call for volunteers, several members expressed interest in this event.

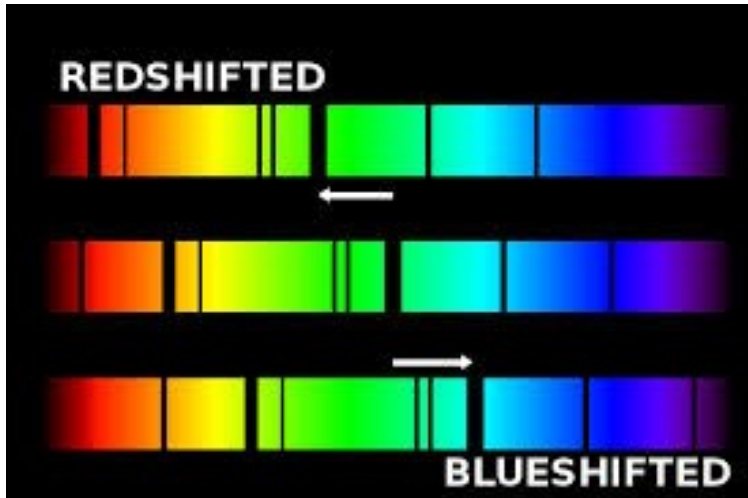
Big thanks to Freddie and Inta for our refreshments tonight. A volunteer is being sought for April's refreshments.

Our meetings for April and May will be held at the Kiwanis Hall.

Adjourned: 10:06 by voice vote.

*Lew Snodgrass
ACA Secretary*

April 28, 2017 - General Membership Meeting



Speaker: Dr. Daniel Rothstein, Department of Physics, Kent State University.

Presentation: "The Four 'Red' Shifts"

There are four types of frequency shifts in nature. One is the classical Doppler Effect in mechanical mediums, such as sound in air or in water (I will play some examples with train horns) for which it depends whether the source or the observer is moving. Another is the Relativistic (why necessary?) Doppler Effect for electromagnetic waves, which shows up in devices such as Doppler Radar, radar guns, and GPS. As astronomers we see this with light in binary stars, exoplanet detection, and the Hubble Law for nearby galaxies. The third type is the Gravitational Red Shift, which explains why light can't escape from a black hole and the apparent illusion

of superluminal velocities in active galactic nuclei. The last type is the Expansion Shift, due to the expanding universe where space expands, often confused with the Doppler Effect for moving objects.

We're back at the Kiwanis Civic Center!!!

**Portage Lakes Kiwanis Civic Center
725 Portage Lakes Dr.
Akron, OH 44319**

Please note that we ALWAYS encourage the public to attend ANY of our events, including meetings. Come and enjoy the lecture and talk to us about astronomy!

April Astronomical Events

Day Hour(UT)

1 09 Aldebaran $0^\circ .3S$. of Moon Occn.
1 10 Mercury greatest elong. E.(19°)
3 19 FIRST QUARTER
6 05 Saturn stationary
7 05 Regulus $0^\circ .7N$. of Moon Occn.
7 22 Jupiter at opposition
10 01 Mercury stationary
10 21 Jupiter $2^\circ S$. of Moon
11 06 FULL MOON
13 00 Venus stationary
14 06 Uranus in conjunction with Sun
15 10 Moon at apogee
16 18 Saturn $3^\circ S$. of Moon
19 10 LAST QUARTER
20 06 Mercury in inferior conjunction
20 21 Pluto stationary
22 20 Neptune $0^\circ .2N$. of Moon Occn.
23 18 Venus $5^\circ N$. of Moon
24 16 Pallas $0^\circ .8S$. of Moon Occn.
26 12 NEW MOON
27 16 Moon at perigee
28 08 Mars $6^\circ N$. of Moon
28 18 Aldebaran $0^\circ .5S$. of Moon Occn.
30 04 Venus greatest illuminated extent

May Astronomical Events

Day Hour(UT)

2 14 Mercury stationary
3 03 FIRST QUARTER
4 10 Regulus $0^\circ .5 N$. of Moon Occn.
7 07 Mars $6^\circ N$. of Aldebaran
7 21 Jupiter $2^\circ S$. of Moon
7 23 Mercury $2^\circ S$. of Uranus
8 08 Juno stationary
10 22 FULL MOON
12 20 Moon at apogee
13 23 Saturn $3^\circ S$. of Moon
17 23 Mercury greatest elong. W. (26°)
19 01 LAST QUARTER
20 06 Neptune $0^\circ .5 N$. of Moon Occn.
22 13 Venus $2^\circ N$. of Moon
23 05 Uranus $4^\circ N$. of Moon
24 01 Mercury $1^\circ .6 N$. of Moon
25 20 NEW MOON
26 01 Moon at perigee
27 02 Mars $5^\circ N$. of Moon
31 17 Regulus $0^\circ .3 N$. of Moon Occn.

*Information Credited,
Her Majesty's Nautical Almanac Office,
United Kingdom Hydrographic Office.
US Naval Observatory.*

Astronomy Picture of The Month

By Marissa Fanady



Pan, a tiny moon in orbit around the gas giant Saturn. Image credit NASA/JPL/Space Science Institute.

Now how's this for an out of this world object! When I saw these amazing images of Pan, a tiny moon in orbit around Saturn inside the ring system, featuring this little moon was a must. Talk about a classic flying saucer shape completely perfect for outer space and no, this is not an alien spacecraft. Ring systems typically come together by gravity to eventually form a moon or a few moons. This is a very natural process. This little guy is made up of ice and dust from the material surrounding Saturn in the A ring. Scientists believe that it began to form when the ring system was young and therefore much thicker. The rounded center is believed to have a dense icy core with a softer mantle; this rounded core is thought to have formed first. The ridge at the equator of this object that gives it such a distinctive look was possibly formed after the round core, clearing ice and dust in the rings and creating the gap where it is now located. This gap is called the Encke Gap. The ridge began to form at a time when the rings were as thin as they are today; and, the very fine material rained down on Pan, but solely on the equator. Due to how small Pan is, twenty-six kilometers or sixteen miles across, the gravity it has is not sufficient enough to flatten out the material on the equator. These images were taken by the Cassini spacecraft on March 7, 2017 when it passed within 15,300 miles of Pan as part of the spacecraft's grand finale maneuver. Cassini is making its closest approach to Saturn's ring system, actually diving through the gap, a dangerous feat never attempted by a spacecraft before. After twenty-two dives the spacecraft will make its final maneuver and plunge into the planet itself on September 15th. During the fall Cassini will continue to record and send scientific data for as long as possible. Scientists decided to end Cassini in such a grand way because they don't want to run the risk of the craft colliding with one of Saturn's moons that could possibly contain life and therefore risk contaminating the moon. Even though Cassini is nearing the end of its mission, this little fantastic moon shows that there are still wonderful exciting discoveries waiting for us as we prepare to say farewell to this incredible spacecraft.

Information credit: <https://www.nasa.gov/image-feature/jpl/pia21436/pan-revealed>

*Article By Marissa Fanady
ACA Publications Secretary*

ACA Eclipse Corner 2017

By Marnie Sanders

Hello Sungazers!

Spectacular solar eclipse pictures and picture-taking hints fascinated members who attended our last meeting! Jodi and Roy McCullough certainly had the “eclipse corner” covered from here to Australia, to Antarctica and even Indonesia!!! We fellow Ohioans could certainly identify with their frustrations from pesky clouds in Aussie land and frozen scopes (and fingers!) in Antarctica.....well, at least we can relate with the Aussie clouds! We were treated to fantastic shots with the shimmer of “the Diamond Ring” and the composite shot of all the Indonesian phases, those were my favs!! But even we Ohioans are getting our best “shot” at the 2017 eclipse with 85% totality predicted for our area since our last “total” in 1979.....38 years ago!!!! And, as a matter of record, it was 99 years ago that a “total contiguous USA” viewing opportunity occurred. So, folks, we should be grateful for 2017 and hopeful for 2024’s events!

They, Jodi and Roy, recommended Solar expert Fred Espenak's YouTube lecture: Great American Eclipse 2017/NEAF. I'm sure all will agree that his photo and video recollections of his "first time" and after is utterly joyful and well.....just endearing and contagious! Go there!

Our club members are finalized and still finalizing all of their accommodation plans and anyone who is still interested in the same may be shut out! Yep, many accommodations are filled and others have been and are filling in exponential rates, so you may have to plan on packing the camping equipment into the back seat if you haven't already reserved your spot.....really!!!

Don't miss our next observatory gathering April 22 (weather permitting) and/or club meeting April 28 (back at the Kiwanis location) if you want to catch up on everybody's eclipse plans! I have already listed in previous newsletters many of the resources, so refer to back issues for websites.

BTW: the sun funnel is a really fun idea for youths, and we are possibly going to try that with our grandkids, AFTER securing their solar eye protection in no uncertain way!

As always.....Set the controls for the heart of the sun!

*Article By ACA Member,
Marnie Sanders*

ACA NEWS AND NOTES

Meeting Location Change

Members please note that our April 28th and May 26th monthly meetings will be held at the Portage Lakes Kiwanis Civic Center, 725 Portage Lakes Drive, Akron 44319. Please check our website for map and directions.

April Meeting Refreshments

The ACA Board needs a volunteer to provide simple refreshments for our April monthly meeting. This break between speaker and membership meeting is a valuable time to chat with the speaker or friends as we refresh and build bonds. Contact President Cathy Loboda at cnloboda@aol.com to volunteer.

Spring Field Trip Canceled

Due to Astronomy Day and key club members unable to attend, the Salt Fork star party scheduled for members on April 29th is canceled. The ACA Board will reschedule this event when possible.

ACA Members' Annual Picnic

This year's Members' Picnic is scheduled for July 30 at the Big Oaks Shelter at Portage Lakes State Park. Please mark your calendars! More info will be forthcoming.

Star Parties

Upcoming star parties are scheduled for April 22nd at 8:30 p.m., May 20th at 7:45 p.m., and May 27th at 9:00 p.m. Come out to the observatory and support!

Eclipse 2017

Marnie Sanders is writing for the ACA newsletter about all things associated with the Solar Eclipse of August 2017. If you have plans for the event or other information you would like to share, feel free to contribute to Marnie's column. Let's create a club experience for Eclipse 2017!

The Night Sky

Newsletter of the Astronomy Club of Akron

c/o Marissa Fanady, Editor

443 Fernwood Ave.

Tallmadge OH, 44278

The Astronomy Club of Akron

c/o Nick Mihiylov

13495 Mogadore Avenue NW

Uniontown, Ohio 44685-9347

Yes! I want to become a member of the Astronomy Club of Akron

www.acaoh.org

(PLEASE PRINT)

NAME: _____ PHONE: _____

ADDRESS: _____

CITY: _____ STATE: _____ ZIP: _____

EMAIL ADDRESS: _____

Astronomy Club of Akron annual memberships renew in the month of September.

ADULT (ages 18 and older) ___\$30.00

JUNIOR (ages 12 to 17) _____\$15.00

ADDITIONAL ADULT member ___\$15.00

FAMILY MEMBERSHIP _____\$40.00

Visit us on the Web at www.acaoh.org,