

# *The Night Sky*

*The Official Newsletter of the Astronomy Club of Akron*

Volume 21 Number 11/12

November/December 1999

## **The President's Corner**

With the return to Standard Time, we're now able to observe an hour earlier than in previous months. It also means that winter (YECH!) is on the way. There are two other things I want to expound on in this column... first telescopes and then a challenge. As I have mentioned at our meetings, the World of Science stores in Summit Mall and Chapel Hill Mall are being very receptive to the ACA having information about our meeting and observatory in their stores. I was talking to a manager of one of the stores and they expressed to me how displeased they were when supposedly one of our members made negative comments about the telescopes displayed in the store. If we remember right our first telescopes were not of the same quality we have now. The purpose of the ACA is to promote (not defeat) the study of astronomy. This means that we shouldn't degrade anyone's equipment whether it is good or not so good. This action gave the ACA a "black eye" by being critical of the 'scopes at the store. Remember, it is better to say nothing at all than to down grade something or someone. I am working with both the Summit and Chapel Hill stores to make presentations to prospective telescope buyers stating the Pro's and Con's of each of the 'scopes the store has. This will serve two purposes: first, it will inform the public before the purchase of the telescope so the purchaser is satisfied and hopefully reduce the number of returns for the store; and second, The ACA will, hopefully, gain new members and thus increase our base of membership. Now for the fun stuff... I'd like each of you to put together an article on the subject of how you got interested in astronomy. I have always been somewhat interested in the study of the heavens. Fran and I were at a friend's house one evening having ice cream when Steve said, "Look there's Jupiter. I'll get my binoculars and we can see the moons of Jupiter. I thought to myself "See the moons of another planet? Steve must have two heads." Steve went and got the binoculars (7x35's if I remember correctly) and sure enough - there were the moons of Jupiter! It was also at this time that I learned that one of my co-workers at Ohio Edison was the president of the ACA. Phil Hegenderfer asked me to come to a meeting and that was all it took. I started out with a pair of binoculars. My choice was not a good one though. They were variable power from 7 to 21 with 50mm objective lenses. Shortly after joining the ACA, I learned that there was a member (R. B. McDaniel) who built telescopes and sold them for just above his cost. My first 'scope was a 6" f/5 with a fork mount. I upgraded to a clock drive with a 12-volt supply when Fred Huffman wanted to sell the 6" f/8 he had. Ray Hyer and I bought the 'scope. Ray got the optics and I got the equatorial mount and the 12-volt power supply. This served me until I acquired the 10" Dobsonian I now have. That 6" 'scope is still in use today! Again, for those interested... the ACA has its own HAM call sign! **W8ACA**.

## **Volunteers Needed for Channels 45/49 Campaign**

We have again been invited to help the Channels 45/49 fund drive; this time on Sunday December 5<sup>th</sup> from 8-11:30 PM. We have at least 5 ACA members who have already volunteered but we need at least 4 more. If you are interested, please let Peggy know by phone (330-499-3174) or at the November meeting. Help out! It's fun!

## **ACA 50<sup>th</sup> Anniversary Mugs available for purchase at the November Meeting**

There will be a dozen ACA 50<sup>th</sup> Anniversary mugs available at the November meeting. Each mug is \$6.25. For those members who ordered mugs, please have a check or cash ready to purchase them.

## 1998-1999 OFFICERS AND TRUSTEES

PRESIDENT.....Frank Koby  
Phone..... 330-794-9087

VICE PRESIDENT .....Peggy Stabholz  
Phone..... 330-499-3174

TREASURER & MEMBERSHIP ..... Dale Knotts  
Phone..... 330-644-1661

SECRETARY..... Mark Kochheiser  
Phone..... 330-882-3713

ASSISTANT SEC/TREASURER..... Tom Mino  
Phone..... 330-923-7704

NIGHT SKY EDITOR.....Dave Jessie  
Phone..... 330-688-9043

OBSERVATORY DIRECTOR ..... Ray Paul  
Phone..... 330-658-3125

STATUTORY AGENT .....Rich Ruggles  
Phone..... 330-644-5912

TRUSTEES:  
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Jim Anderson..... 330-644-7135  
Ethel Lillie.....

## 1999-2000 COMMITTEES AND CHAIRS

### LIGHT POLLUTION COMMITTEE

Lisa Swing-Corney ..... 330-896-0836  
Greg Crenshaw ..... 330-848-4755  
Mark Kochheiser ..... 330-882-3713  
Bill Prewitt ..... 330-633-9283  
Lou Poda ..... 330-773-8160  
Dave Jessie..... 330-688-9043

### OTAA REPRESENTATIVE

Lou Poda..... 330-773-8160

## ACA MONTHLY MEETING INFORMATION

**Location.....Portage Lakes Kiwanis Hall**  
**Next Meeting..... November 19<sup>th</sup> at 8:00pm**  
**Speaker... Steven Cederbloom from Mt Union**  
**Subject..... Cosmology**

***NO MEETING IN DECEMBER***

## ACA Merchandise Mart

Astronomy related items at low club prices!

ITEM	Non Member Cost	Club Member Cost
T-Shirts	\$15.00	\$10.00
SkyGlobe 5.25"	\$4.00	free on
SkyGlobe 3.5"	\$4.00	your disk
Star Wheels	\$2.00	\$3.00
Kalmbach Publishing	25% to 44% off for members	
Sky Publishing	- - - 10% off for members	
Sky & Tel Mag	\$36.00	\$29.95
Astronomy Mag	\$33.20	\$29.00
Edmund Scientific	- 15% to 45% off for members	

**Contact Dale Knotts at 330-644-1661  
for additional information**

Send your articles, items for sale, and comments to:

***The Night Sky*** - Dave Jessie  
5020 Fishcreek Rd  
Stow, OH 44224-1934

If you have email capability, send to:

[DAJessieStow1@worldnet.att.net](mailto:DAJessieStow1@worldnet.att.net)

Or call: 330-688-9043

The deadline for article submission is the 18<sup>th</sup> of each month. If you have info that needs to be in the next *Night Sky*, I must have it by the 18<sup>th</sup> of the previous month! All files should be straight ASCII text files, or any version of Microsoft Word to minimize import or conversion problems.

**Please send in your articles!**

**The newsletter (and the club) will be much richer  
with your contribution!**

**Thanks to all who have used their valuable time to  
author or collect material for the Night Sky.**

*(Ed.)*

## ***For Sale - The ACA's Classifieds***

10" Dob w/Coulter mirror, Telrad & misc..... \$ 600  
Call Jim at 330-644-7135

21" NEC MultiSync 6FG computer monitor ..... \$ 700  
MS Office 97 Professional on CD-ROM..... \$75  
Call Dave at 330-688-9043

Televue 4.8mm Nagler eyepiece..... \$ 120  
Orion 'Skyglow' 1¼" filter ..... \$ 40  
12½" Truss tube Dob parts kit - no optics ..... \$ 100  
Call Bill at 330-633-9283 or email: [bprewitt@neo.rr.com](mailto:bprewitt@neo.rr.com)

# ACA Monthly Meeting Information

The ACA meetings are the 4<sup>th</sup> Friday of the month except in November when we meet the 3<sup>rd</sup> Friday and in December when there is no meeting. We meet at the Kiwanis Civic Center on Portage Lakes Drive at 8 PM. Please note that the ACA Dark Sky Committee meeting occurs ½ hour before normally scheduled monthly meetings.

Nov 19<sup>th</sup> Speaker: Steven Cederbloom  
from Mt Union College  
Topic: Cosmology

*Note: This is the 3<sup>rd</sup> Friday of the month instead of the 4<sup>th</sup> !!*

Dec No Meeting  
*Happy Holidays!*

Jan 28<sup>th</sup> Speaker: Don Palac from NASA  
Topic: Air Breathing  
propulsion

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## A Dark Sky Observing Site!

By Bill Prewitt

I've been looking for a good dark sky site that's closer than (the Eastern Ultimate) Spruce Knob West Virginia. The best leads always come from asking your friends, but there are some new high-tech tools available now too. The International Dark Sky Association has a website with a clickable map that tells you how dark a place is and also gives you a list of other nearby places that are darker.

This is at:

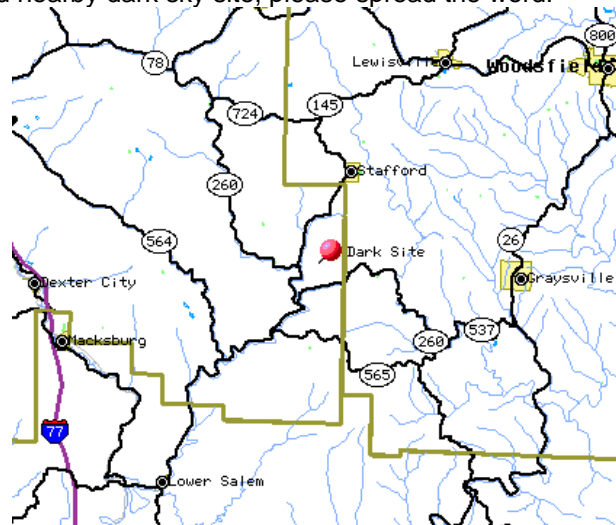
[http://www.darksky.org/ida/darksky/darksky\\_map.html](http://www.darksky.org/ida/darksky/darksky_map.html)

By finding a likely spot in Ohio, clicking, then clicking again on darker places, I was able to determine that the darkest skies in Ohio can be magnitude 6.7 (not bad at all) and the closest 6.7 spot is near -81.3 longitude and 39.67 latitude. It turns out that this is located South of I 70 and East of I 77, West of Woodsfield, and southeast of Seneca Lake. Having found your spot, you can click on a little link that launches a map generator at the bureau of the Census for you.

<http://tiger.census.gov/cgi-bin/mapbrowse-tbl>

You can zoom in or out, and add or remove things like railroads or county lines from the map. I did all this, and set out on a road trip to check out the spot in daylight. It turns out that this area is miles of little creek valleys with a house or farm every half mile or so, but with no towns of more than a couple dozen homes for miles. The roads are all two-lane, paved, and in good repair. The bad news is that it's heavily wooded which limits the horizon, and I couldn't find a public road to a hilltop or ridgetop in the time I had to spend. If I do this again, I'll check out route 78 East from 77. The area East of Tappan Lake on route 250 is magnitude 6.5, and much closer. There is also some stripmined land South of Cadiz that is uninhabited and

should hold a place to set up a scope. If anybody knows of a good nearby dark sky site, please spread the word!



Bill Prewitt's Dark Sky Site

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## Return from the Mound

By Phil Creed

Saturday Sept 18<sup>th</sup> was partly cloudy early and clear later, but Friday, WOW!! Darkest sky I have EVER seen. It was good enough that I actually got a fleeting naked-eye glimpse of the HELIX NEBULA. The Milky Way was spectacular. Ted (Faix) had a grand ol' time on Friday night. The Andromeda Galaxy was very impressive in all instruments; what shocked me was how easily its dust lane appeared in the 16x80s. On Friday night, I got to see the Helix, the North American Nebula, M11, M31 (this fills up the entire 16x80 field! If you don't believe me, ask Ted; he saw it, too!), M32, M33, M34, M110, the Veil nebula (you could see the whole loop in the 16x80s), NGC 253 (the great spiral in Sculptor, great object in the 12.5" Dob, Jupiter, Saturn, Comet Lee, M1, and M42 as it came above the trees. By that time, it was 2 am and we had to get some sleep. On Saturday night, I got to see M81 and M82 (the dust lanes in M82 were very prominent even though it was near lower culmination), M27, M13 (RIDICULOUSLY BRIGHT!!), NGC 6207 (12th mag. galaxy near M13; EASY!) M92 (what an object; too bad it's near M13), M8, M21, M24, M55, M6, M7, M16, M17 (the Omega Nebula just RULES from Spruce Knob!), M33 (which was no problem naked-eye), M31, a couple of Abell Planetaries (Phil Hoyle was trying to get a 13th-magnitude one; needless to say, it was EASY), Planetary Nebula NGC 6818 in Sagittarius, cluster NGC 6709 in Aquila, Comet Lee, Comet 10P/Temple 2, M36, M37, M38 (all naked eye despite being low to the horizon), the Double Cluster, Stock 2 (just 2 degrees north of the Double Cluster; looks like a "Muscle Man"), M57 (thought I saw the central star for just a fleeting instance), and the last two objects I saw, well, were memorable. The first was Stephan's Quintet. I got ALL 5 GALAXIES; the faintest, at 14th magnitude, was easy. The last was the California Nebula. I saw it in my 16x80s (NO FILTERS!!); it may be faint, but it is HUGE!! I just got some pictures back from Van's. It turns out that my stationary 50mm lens on a tripod for 30 seconds at f/1.8 with 800-speed film got me stars down to 10th magnitude! You've got to see them!

## World Wide Web Designer Needed For ACA Web Site

by Gregg Crenshaw

Two and a half months ago I saw an advertisement of "Free Web Sites For Nonprofit Organizations" in the Akron Beacon Journal. I discussed this opportunity with our club President, Frank Kolby and he agreed with me to pursue it. I inquired to the Beacon Journal regarding this. The Beacon said they would have the servers and software running by the end of August. I have been waiting these last two and a half months for the Beacon Journal to get the servers and software up and running. The wait is over! I received the documentation October 23<sup>rd</sup> that the service is up and running. Web pages can be edited and uploaded or there is an online editor. The ACA is in the process of building a web site on the Beacon Journal's Ohio.com web site. I am in need of one or two persons who know how to write HTML to assist in putting together the web site. If you are interested in helping put together the official ACA web site send me an E-Mail at [rigel@megsinet.net](mailto:rigel@megsinet.net). If you want to see the progress of the web site visit <http://community.ohio.com/realcities/aca>

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## The Pharos of the Sky

By Douglas Mason

Recently, the alluring planet Neptune has been the basis for astronomical research. This was all done, however, with the help of three organizations working together to create a phenomenal astrophotography center at Palomar Observatory. On the planet, they have found a furious, brewing storm in the upper atmosphere, and thanks to unprecedented resolutions of their camera system, they have been able to show this with great detail. Prospects run wild, as astronomers across the globe are now given such promising opportunities.

The California Institute of Technology's Hale Telescope in Palomar Observatory has been a great support for this project. Using its massive 200-inch aperture, Cornell University's new Palomar High Angular Resolution Observer (PHARO) infrared camera and the Jet Propulsion Laboratory's Adaptive Optics system (AO), astronomy researchers have greater ability to observe. Cornell, who recently discovered two new moons on Uranus named Caliban and Sycorax to follow The Tempest tradition, created the PHARO camera in order to capture images with over a million pixels in the

infrared and near-infrared spectrums. But what makes these images even more outstanding is the AO system. With the atmospheric correction that is possible with this system, resolution can increase 500% from 1.0 arcsecond to 0.2 arcseconds. The images that have been produced are far beyond amazing.

Their latest endeavor has been photographing Neptune. By doing so, they have made some astonishing revelations in astronomy. Firstly, they have been able to prove that Neptune is much more violent than its cool blue appearance. Secondly, they were able to procure images that have much higher quality than possible before and even rival that of the Hubble Space Telescope. The instrument is even able to take spectrographs, so the researchers can do more thorough testing. This gives scientists many more options than the extremely expensive choices that were offered before.

Truly, this is a great time for astronomers, for technology is advancing so rapidly that previously unbelievable experiments and images are now practical. As more and more universities and research facilities collaborate, greater undertakings have been spawning at a remarkable pace. The PHARO project is planning to do more investigation on Saturn's moon Titan, which promises to provide interesting information, as it is the only known satellite that has its own atmosphere. The people at Cornell would also like to dedicate the future research to Carl Sagan, for he always awaited studying Titan. In fact, Cornell will be using their expertise in the infrared spectrum when they launch their Space Infrared Telescope Facility into orbit in 2001. To have so many minds working together on pure science certainly brings thrilling times to Humanity.

For examples of the great improvements of the AO system, go to

<http://www.astro.cornell.edu/PHARO/science.html>

The home site for the camera is

<http://www.astro.cornell.edu/PHARO/pharo.html>

For more information about this particular event, go to

<http://spacedaily.com/spacecast/news/telescopes-99c.html>

For more information about Palomar Observatory and visiting, go to

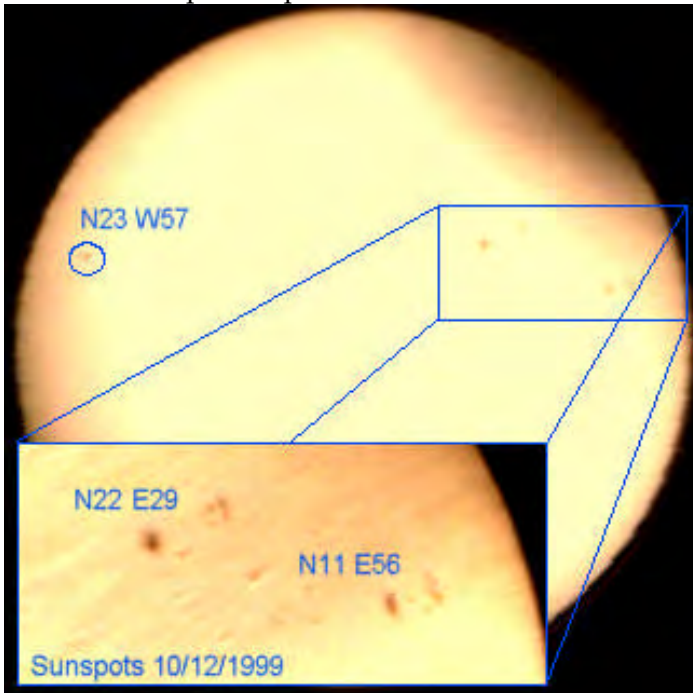
<http://astro.caltech.edu/observatories/palomar/public/info/brochure.html>

More information about the Hale Telescope and other instruments at Palomar Observatory can be found at <http://phobos.caltech.edu/observatories/palomar/>

## Sun Spots Captured on Video!

By Jason Shinn

Fellow club members, I thought you might be interested in seeing images I've captured of the Sun using a video camera. I used a full aperture solar filter on my telescope to view the sun, then butted the camera lens up against a 25mm eyepiece. As you can see, I had some (and I emphasize SOME) success. The naked eye view of this same photo is probably some 100 times better in resolution, but it's a start. The letters and numbers you see are just simply coordinates I got for these particular sunspot groups obtained from Mt Wilson observatory. N means north of the sun's equator and E, W means East or West of the sun's central meridian, the imaginary line that runs through the center of the sun from pole to pole.



Video camera image of sunspots

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## Some Astronomical notes

By Dave Miller

1. Saturn reaches opposition November 6<sup>th</sup>. ( mag -0.2 ) Saturn's rings will be tilted approximately 20 deg. to our line of site, continuing to increase to a maximum of 27 deg. in 2002.
2. Possible new meteor shower, the (Linearid's ) November 11<sup>th</sup>, a result of the recently discovered comet ( c/1999j3 ). Those interested may want to check the pre-dawn hrs of the night of the 11<sup>th</sup>, and the pre-dawn hrs of the 12<sup>th</sup>.
3. Leonids, November 18<sup>th</sup>,

4. New comet discovered c1999 s4 linear. Which may become a naked eye comet July 2000. time will tell.... [see following article]
5. Mars Polar Lander lands December 3<sup>rd</sup>.

One more note, I finally made the solar filter for my Meade 10" SCT. I used an embroidery hoop and cut a flat disk out of 3/16" luan; cut a 3 1/2" off axis hole then epoxied the filter material over the hole. It works great! Now I'm ready for the ACA's next **Lights On - Lights Off** program.

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## Comet C/1999 S4 (LINEAR)

From Recent News and Observations  
<http://encke.jpl.nasa.gov/RecentObs.html#headlines>

IAU Circular 7267 (Oct. 1, 1999) reports the discovery of a comet by LINEAR. This comet, which is currently 16<sup>th</sup> magnitude, has the potential of becoming a naked-eye comet, according to the preliminary orbit given on the same circular. Based on the orbit, the comet will reach a perihelion distance of 0.72 AU on July 18, 2000. The Northern Hemisphere is favored during most of the apparition. The comet may be picked up visually by the end of the year. As it slowly brightens, the comet will move into solar conjunction in March 2000. It will emerge in the morning sky at the end of May as perhaps a 9<sup>th</sup> magnitude object. The comet will brighten rapidly as it moves northward. In mid-July 2000, the comet will be at a high Northern declination (~+57 deg. max.). The comet will move under the pole from the morning sky into the evening sky. At peak brightness, the comet might be magnitude 3.5...This value is extremely **uncertain**. The comet will then rapidly dive to the south in the evening sky and will fade. There will be a period in late July and August 2000 when the comet is visible from both hemispheres. During this same period the comet will become a binocular object. In September the comet will slip into conjunction with the Sun. When the comet emerges in November 2000, it will be a faint telescopic comet for Southern Hemisphere observers































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## Note from the Editor
































By Dave Jessie

A very heartfelt thanks to all the new contributors to this edition of *The Night Sky*!! I actually had several editorial choices to make to keep this edition to a workable size. Also, please note that this document is viewable in PDF full color format at: <http://members.aol.com/starman888/index.html>

# November 1999

Sun	Mon	Tues	Wed	Thur	Fri	Sat
	1  Moon 00:07 14:27 Sun 06:57 17:22	2  Moon 01:12 15:02 Sun 06:58 17:21	3  Moon 02:16 15:33 Sun 06:59 17:20	4  Moon 03:18 16:02 Sun 07:00 17:19	5  Moon 04:19 16:29 Sun 07:01 17:18	6  Moon 05:20 16:57 Sun 07:03 17:17
7  Moon 06:19 17:27 Sun 07:04 17:15  New Moon, 22:54	8  Moon 07:18 17:58 Sun 07:05 17:14	9  Moon 08:15 18:32 Sun 07:06 17:13	10  Moon 09:12 19:10 Sun 07:08 17:12	11  Moon 10:06 19:52 Sun 07:09 17:11	12  Moon 10:57 20:39 Sun 07:10 17:10	13  Moon 11:44 21:31 Sun 07:11 17:09
14  Moon 12:26 22:26 Sun 07:12 17:08	15  Moon 13:05 23:25 Sun 07:14 17:08	16  Moon 13:40 ----- Sun 07:15 17:07  First Qtr., 04:04	17  Moon 14:13 00:27 Sun 07:16 17:06	18  Moon 14:45 01:31 Sun 07:17 17:05	19  Moon 15:16 02:37 Sun 07:18 17:04  ACA Meeting Steven Cedarbloom Cosmology	20  Moon 15:49 03:47 Sun 07:19 17:04
21  Moon 16:24 04:59 Sun 07:21 17:03	22  Moon 17:04 06:13 Sun 07:22 17:02	23  Moon 17:50 07:29 Sun 07:23 17:02  Full Moon, 02:04	24  Moon 18:42 08:42 Sun 07:24 17:01	25  Moon 19:42 09:51 Sun 07:25 17:01	26  Moon 20:47 10:52 Sun 07:26 17:00	27  Moon 21:55 11:44 Sun 07:27 17:00
28  Moon 23:03 12:27 Sun 07:29 16:59	29  Moon ----- 13:05 Sun 07:30 16:59  Last Qtr., 18:20	30  Moon 00:08 13:38 Sun 07:31 16:59				

# December 1999

Sun	Mon	Tues	Wed	Thur	Fri	Sat
			1  Moon 01:12 14:07 Sun 07:32 16:58	2  Moon 02:13 14:34 Sun 07:33 16:58	3  Moon 03:13 15:02 Sun 07:34 16:58	4  Moon 04:12 15:30 Sun 07:35 16:58
5  Moon 05:11 16:00 Sun 07:36 16:58	6  Moon 06:09 16:32 Sun 07:37 16:57	7  Moon 07:06 17:09 Sun 07:38 16:57  New Moon, 17:33	8  Moon 08:01 17:50 Sun 07:39 16:57	9  Moon 08:53 18:35 Sun 07:39 16:57	10  Moon 09:42 19:25 Sun 07:40 16:57	11  Moon 10:26 20:19 Sun 07:41 16:58  <div style="border: 1px solid blue; padding: 2px; width: fit-content;">ACA Observatory Open House Misc Observing</div>
12  Moon 11:06 21:17 Sun 07:42 16:58	13  Moon 11:42 22:16 Sun 07:43 16:58	14  Moon 12:14 23:18 Sun 07:43 16:58	15  Moon 12:45 ----- Sun 07:44 16:58  First Qtr., 19:51	16  Moon 13:16 00:21 Sun 07:45 16:59	17  Moon 13:46 01:27 Sun 07:46 16:59	18  Moon 14:18 02:34 Sun 07:46 16:59
19  Moon 14:54 03:46 Sun 07:47 17:00	20  Moon 15:36 04:59 Sun 07:47 17:00	21  Moon 16:24 06:13 Sun 07:48 17:01	22  Moon 17:20 07:26 Sun 07:48 17:01  Full Moon, 12:33	23  Moon 18:24 08:32 Sun 07:49 17:02	24  Moon 19:33 09:31 Sun 07:49 17:02	25  Moon 20:44 10:21 Sun 07:50 17:03
26  Moon 21:53 11:03 Sun 07:50 17:03	27  Moon 23:00 11:39 Sun 07:50 17:04	28  Moon ----- 12:10 Sun 07:51 17:05	29  Moon 00:04 12:38 Sun 07:51 17:06  Last Qtr., 09:06	30  Moon 01:06 13:06 Sun 07:51 17:06	31  Moon 02:05 13:34 Sun 07:51 17:07	

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

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( For Optional Email Delivery of *The Night Sky* )

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

Adult ( ages 18 and older ).....\$20.00

Junior ( ages 12 to 17 ).....\$15.00

Added Adult member .....\$ 5.00

Family Membership .....\$30.00



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Stow, OH 44224-1934

The Astronomy Club of Akron

### Upcoming Events

- Nov 19<sup>th</sup> ACA meeting, Portage Lakes Kiwanis: Steven Cederbloom / Mt Union College on *Cosmology*
- Dec 11<sup>th</sup> ACA Observatory, Portage Lakes State Park for *Open House – Miscellaneous Observing*
- Jan 28<sup>th</sup> ACA meeting, Portage Lakes Kiwanis: Don Palac / NASA on *Air Breathing Propulsion*