



# The Night Sky

The Newsletter of  
The Astronomy Club of Akron

www.acaoh.org

Volume 28 Number 1

January 2006

## Meeting Friday, January 27

### Ramblings of the President

by Dave Jessie

### Depression & Psychology 101

I'm depressed. The weather has been awful – wall to wall clouds for weeks on end. When a star (or Venus) finally DID make it through the soup on an occasion or two, it was extremely cold. Boo hoo hoo. David's a big baby. It is said that misery loves company and we're not alone in this predicament...on the international newsgroup, sci.astro.amateur, there have been countless posts from fellow amateurs from around the world lamenting the poor weather.

Recently, a thread was running (newsgroup talk for 'conversation') about this. Rod Mollise, author of *Choosing and Using a Schmidt Cassegrain Telescope* chimed in with the following quote: "*One of the best descriptions I've heard of observational astronomy (amateur or professional) is 'A Pursuit for the Patient.' Sure, there are plenty of disappointing nights, but when things come together, you'll forget those. That said, astronomy is not for everyone, and not a good match for every personality type.*" Wow, Rod really knows how to cut to the chase! I was wondering how I would ever escape from the talons of this funk.

Then it happened - an ACA Board meeting. We discussed upcoming

events that are near and dear to us – 'Astronomy Day', the 'Telescope Seminar', the 'Hot-dog Extravaganza', all those wonderful warm nights under the stars with our fellow members and friends. There's *plenty* to be excited about! Mark North has put together a fine schedule of events for our public nights at the observatory (included in this newsletter and on our webpage) and I'm anxiously awaiting those opportunities to show our stuff – not only to the public, but to each other. Hey, this weather *can't* last forever.

It is known in psychology that one of the most effective ways to modify behavior is through *intermittent positive reinforcement*. What does this mean? Want to keep a lab animal running through a maze and press a lever? Reward him, sure... but not every time. Reinforce (reward) on a random schedule. Running through that maze—no matter how difficult, has now been reinforced to the point that the poor creature will keep running the maze even without the reward at the end. Ever have a dog? Did you really try to keep from feeding it table scraps? Did a visitor or child 'accidentally' sneak him a bit of food from the table now and then? Did the poor dog suddenly develop the new habit of *always* hanging around the table waiting for a scrap that *might* be coming? We're all victims of this!

Any reasonable person would question the sanity of those that spend so much money, so much time planning, so much effort loading, unloading and setting up equipment just to look at the bottoms of clouds. Why do we keep coming back? Because we've been conditioned in the truest sense of the word! When we *do* get to see those magnificent celestial objects, we're rewarded greatly – but, alas, hardly every time.

Why do people from this area keep getting excited about the Cleveland Indians, Browns and Cavs? Same reason exactly. OK, so I'm conditioned. OK, so I've been intermittently positively reinforced. So what? I love this hobby, and I love sharing it. You do, too, admit it!

There's a reason that NE Ohio has one of the highest per capita rates of amateur astronomers. We're *all* conditioned. Say it after me: "I'm a victim of intermittent positive reinforcement, and I'm *proud!*". Louder, please.

Oh, one last thing...I hope you all remembered to set your clocks up by 1 second at 23:59:59 on December 31<sup>st</sup>. A 'leap second' was added to keep clocks in sync with the slight non-24 hour/day rotation of the Earth. If you found yourself late for an appointment, that was probably the reason. ;^)



**Minutes of the ACA General Membership Meeting on Friday November 18, 2005.**

- 1.) Meeting started at 8:00pm with Mr. Joseph DeRoacher as the guest speaker. Mr. DeRoacher is from the Cleveland Museum of Natural History. Mr. DeRoacher had many new photos of Mars and Saturn with its many moons, also the possibility of landing back on the moon.
- 2.) The ACA has a new Optima digital projector that will also be used for outreach events.
- 3.) The next ACA general membership meeting will be January 27th 2006.
- 4.) T-shirts are available for pick-up.
- 5.) Boy scout troop 303 is looking for volunteers for a program at Camp Manatoc.
- 6.) Loaner scopes are available upon first come first serve basis. Please see Freddy Hoffman or Mark North.
- 7.) ACA general membership in January is to decide on plans for our Holiday party.

ACA Secretary  
Pete Flohr



**Treasurer's Report: 11/1/05 - 12/31/05**

Diane North, Treasurer

**Total Beginning Assets** .....\$7,742.31

**Income**

Interest on balances .....\$13.50  
 50/50 Raffle .....\$54.00  
 Refund of Fees - Charter One Bank .....\$1.50

**Expenses**

Newsletter Expense ..... \$(92.06)  
 Observatory upkeep ..... \$(51.14)  
 Observatory Improvements ..... \$(16.75)

**Total Ending Assets** .....\$7,651.36

**ACA Executive Board Meeting/summary Jan. 8, 2006**

- 1) The ACA Executive Board meeting was held on Sunday, January 8, 2006 at 2:00PM.
- 2) The plaque thanking the donors of the club's 14" SCT is completed and will be displayed in the ACA observatory.
- 3) The Board unanimously agreed to sponsor our Clear Sky Clock in the amount of \$50.
- 4) The ACA Observatory Schedule is near completion and will be available prior to the next general membership meeting.
- 5) 2006 Mesier Marathon will take place in March or April.
- 6) The ACA's observance of Astronomy Day was discussed with various ideas coming to the table. More discussion to follow. Member Paul Koberg's idea of setting up at a local Barnes & Nobles

and/or Borders was met with great enthusiasm.

- 7) A motion to present the speaker at ACA meetings with a certificate of appreciation was discussed.
- 8) The ACA Library is to be dismantled as decided at the last general membership meeting. Books will be offered first to our observatory director, then to our membership who will have the opportunity to purchase books at a price of 3 books for \$5.00 at our general meetings. Club Trustees made the recommendation and the motion was seconded and passed.
- 9) The next ACA general membership meeting is Jan. 27th 2006.

ACA Secretary  
Pete Flohr

## From the Observatory Director By Mark North

Hard to believe, but it's 2006 already! We can pretend that 2005's viewing conditions were just a string of bad dreams and look forward to a whole year of new opportunities.

Please take a look at the schedule posted on our website for a list of viewing dates. The biggest change you'll notice is "make-up dates" for all of our public viewing events (except for the warmer months when we already have two viewing sessions per month). This seemed like a logical way to deal with the NE Ohio weather situation. With a bit of luck, we'll have a few more public viewing success stories this year.

As you know, it's been cold and dreary lately – not very nice for working at the observatory. But we've been planning and looking forward to some warmer weather. We are striving to clean out some of the obsolete equipment that is taking up valuable space in the building. Proceeds from the sale of this equipment will go into the club's account to pay for improvements and much-needed new gear.

We are also tackling the lighting and wiring situation inside of the building. New interior lights have been purchased and are awaiting installation (as soon as the temperature goes up ten or twenty degrees). Switches are also going to be installed at a convenient location to control our building's lighting. At the very least, if sky conditions are so-so, we will be able to have visitors

tour our building in lighted conditions. We'll also be able to work inside of the building without having to roll off the roof in daylight to see what we're doing!

We have lots of work planned, but it's important to have fun too - We are beginning to plan this year's Messier Marathon! Last year was a lot of fun and we intend to do it again. I'll admit that I ran out of steam somewhere around 4:00 am, but this year I'll be there to see the sun rise – honest, I will! Stay tuned for more on this.

Finally, I'd like to thank all of you for your support of our club. I hope to see you at our upcoming events and I'm especially interested to see any and all new gear you've purchased since last year.

At the November meeting we were treated to a 3D image. Here we see Andy Marek and Jason Shinn proving that the 3D glasses are not only functional, but very stylish.

## Getting the short straw. By John Shulan

Getting the short straw can sometimes be the best that can happen. While attending last month's ACA meeting, a request came out for someone to do an outreach program with a Boy Scout troop the next night. I seemed to get the short straw.

I go out to Camp Manitoc and am greeted by three nice Scouts. They helped me carry my gear to the campsite. I was hosted to a gourmet homemade chili and corn bread. The sky was cloudy but just before everyone gave up, the clouds parted and we all had some wonderful views of a variety of clusters and Mars.

The parents and the scouts both asked good questions all night and it was truly a most enjoyable event.

To share the universe, get a helping hand, and fed a great meal, I'll taker the short straw anytime.



## THE END OF THE LX200 SCT. THE END OF THE LX200 SCT?!?

In November 2005, the final production run of Meade's 7" Maksutov-Cassegrain LX200GPS was completed. This leaves the Schmidt-Cassegrain models as the only LX200's being produced. These have been popular instruments for years; many Club members own them and, of course, the Club's observatory contains an excellent example of a 14" LX200GPS.

Meade's introduction of their RCX series telescopes last year wasn't expected to have much impact on SCT demand. Those are much more expensive instruments although they are supplied on a very similar, though somewhat beefier, mount. The RCX is a cross between a Ritchey-Cretien and an SCT. Like an SCT they use a spherical primary and a front corrector. Unlike an SCT, but like an RC, they use a hyperbolic secondary mirror. Unlike either one, they use a new corrector design which causes the spherical primary mirror to emulate a hyperbolic mirror. The RCX is also equipped with multiple added features, making them very pleasant to use but raising questions among some users regarding possible future maintenance issues of all the extra gadgetry. These extras include a moving, tiltable corrector/secondary assembly which permits remote focusing and collimation, an internal dew heater, and an internal fan. Operating at F/8 and offering optical performance superior to a Schmidt-Cassegrain, the RCX

makes a great midlevel imaging platform at a cost of nearly double that of a comparable LX200GPS.

Last week Meade announced yet another new series of telescopes designated the LX200R. These are much closer to the LX200GPS series Schmidt-Cassegrains in price and features. In fact, the mounts are standard LX200GPS mounts. The optical tubes are modified SCT tubes; the only change is the replacement of the Schmidt corrector and aspheric secondary with an RCX-style corrector and a hyperbolic secondary. They are the same size and weight as the Schmidt-Cassegrain versions and operate, like current LX200GPS models, at F/10. Except for the optics themselves, the LX200R is functionally identical to the LX200GPS; no features were added or removed. Prices are a few hundred dollars more than comparable LX200GPS models.

My guess is that Meade has no intention of offering two lines of telescopes with nearly identical prices and features. I believe that their plan is to replace the LX200GPS line with the LX200R telescopes. If the optical performance of this version approaches that of the RCX series they are sure to be a hit for visual users, though some imaging folks will still prefer the faster optics and richer feature set of the RCX400 telescopes. Other imagers will like the fact that, unlike the RCX series telescopes, the LX200R optical tubes will be available for separate purchase for installation on existing mounts. I expect to get a close look at an LX200R when they begin ship-

ping; of course, there's no telling just when that will be. When I do I'll be sure to drag it out to the Club site a few times for the gang to check out.

Oh - did I mention that they also announced two new RCX models? These are for the imaging-obsessed. Two new optical tubes, 16" and 20" RCX with all the bells and whistles - and on a brand new German EQ mount with a capacity of over 200 pounds. The 16" will go for \$22,000 and the 30" will be \$30,000. The new mount will be \$15,000 by itself.

The Veep [aka John Crilly]



### Looking for a Loaner?

Just because you don't own a telescope is no excuse for not enjoying close up view of the heavens. If you are a member of the ACA you may borrow a scope to use for three months of celestial awe.

If you are interested please contact Mark North, observatory director.

## Spider in the Workshop

By Mark North

Many of you have heard me sing the praises of my little Hardin eight inch Dobsonian telescope. For the price, it was impossible to beat and the optics are top-notch. No wonder, then, that Hardin was awarded a contract to produce optics for some government project. Unfortunately, making telescopes has been discontinued in favor of that and other endeavors and if you can find one of these wonderful little Dobs, you'd be advised to grab it before the last of them are gone.

"So," you may ask, "how can you improve upon such a great little scope?" Just recently, I decided to see if much improvement was really possible. Rumor had it that elimination of those obvious Newtonian-design, diffraction spikes could be achieved through the installation of a curved vane spider. This would supposedly allow for better contrast all-around.

After a bit of reading on the subject, I decided to replace my four-vane spider with a home-brewed, curved, two-vane spider. I have a shop full of tools that beg for my attention and I was happy to spend some time with them. At the same time however, I wanted to see just how difficult a project this really was. Although I went a little farther than necessary with my own design, this project is one that can be completed with the more common home-shop tools: a hacksaw; a drill press, a couple of taps and various screwdrivers.

To make my life easy, I visited my local scrap metal yard

and purchased some 1 1/4 inch aluminum hex bar. This would be the hub where my vanes would connect and the flat sides would make drilling and tapping very easy. I also purchased a length of 1/16 inch flat aluminum for the vanes.

The first thing I did was cut a piece of the hex bar 3/4 inch long and cleaned up the rough edges. Next was the drilling and tapping. In this design, the mirror cell attaches to the hub with a single center screw. Alignment is achieved by adjusting three long screws that contact the back of the secondary cell. Mind you, I didn't come up with this design on my own – it's the same as my original, four-vaned spider. This photo shows the hub with the center hole and three adjustment screw holes drilled. I went one step farther with my hub and milled 1/16 inch troughs on either side for the ends of the two vanes to sit in. This probably isn't necessary, but I did it anyway.



This next photo shows the hub, attached to the bottom of the original secondary holder. The long screws on the sides haven't yet been trimmed to length – those are the ones to



which the two vanes attach.

The next step was to cut the vanes, drill them and attach them to the hub and the side of the optical tube. Because I only had two vanes, it was necessary to extend the vanes for another three inches and attach them each at two points to the optical tube. I found that having a single connection point on each

vane allowed the entire spider to twist about the axis between the two single connection points.

Once the vanes were cut and drilled, I bent them, starting with the three-inch sections and then to the

more curved sections. For the three-inch sections, I bent them around a large coffee can. The shorter sections were bent around a tall propane tank. Yes, I know that that sounds primitive, but it worked! If you've ever bent aluminum, you'll know that it's impossible to bend gracefully unless you bend it around a form.

Finally, I assembled the hub and vanes and this assembly was then mounted to my optical tube and the optics were collimated. I should mention that at this point, the spider was still shiny as I had not yet painted it. I was skeptical about the merits of

this entire project and didn't want to bother painting it until I gave it first light and tested the design. If all went well, I planned to paint it flat black.

First light was on November 11 at the Fishcreek School with Dave Jessie and gang. Perfect collimation was achieved using Dave's laser collimator. Darkness was falling very quickly and my new spider was about to be scrutinized.

My first target was the brightest object in the sky – Venus. Although Venus was sinking toward the treetops and through a bit of atmospheric goo, I figured that it was so bright that diffraction spikes would be very visible. To my complete surprise, there were absolutely no diffraction spikes and I could make out a nice, clear disk showing approximately half-phase.

Over the next four hours, I spent

more time looking at bright objects than at faint fuzzies. I couldn't believe what I was seeing! Mars looked wonderful. Vega and any other bright stars I viewed were pinpoints rivaling my 80mm ED refractor. Albireo was absolutely stunning – its two stars clean, clear and colorful. Even Alcor and Mizar, which were already bathing in the glow of the Cleveland Nebula, were sharp.

As those of us in attendance took turns looking through the scope, it was concluded that the new spider was nothing less than amazing. For me, it was even better than I had hoped. Standing there in that dark, cold field, I decided that I would never again own a Newtonian telescope without a curved vane spider. For anybody who feels comfortable modifying their own scopes, this is a highly worthwhile and satisfying upgrade. For a very small investment and a few hours with common tools, you can make your Newtonian telescopes give views that will stun your refractor friends.



Just a few artistic looks at the observatory.



# Astronomy Club of Akron

## Portage Lakes Observatory

www.acaoh.org



## 2006 Calendar of Public Events

- The following dates are open to the public. Please join us for stargazing and educational activities. In the event of inclement weather, programs may be canceled. Call for up-to-date information: (330) 819-4394
- If you have your own telescope or binoculars, please feel free to bring them with you!
- As this is an outdoor activity, you should dress appropriately for the season. A restroom is available for your convenience.
- Please be considerate of those who bring private equipment - children should be supervised at all times. Pets should be left at home. Smoke and expensive optics don't mix - please watch your cigarettes and use the provided receptacles.

### Jan 28 - 7:30pm (weather make-up date: Feb 4)

Featured constellations: Andromeda; Orion; Taurus  
Featured planets: Mars; Saturn

### Feb 25 - 7:30pm (weather make-up date: Mar 3)

Featured constellations: Auriga; Camelopardalis; Gemini  
Featured planets: Mars; Saturn

### Mar 25 - 7:30pm (weather make-up date: Apr 1)

Featured constellations: Cancer; Canis Minor; Cepheus  
Featured planets: Mars; Saturn

### Apr 22 - 8:00pm (weather make-up date: Apr 29)

Featured constellations: Crater; Hydra; Leo; Lynx  
Featured planets: Mars; Saturn

### May 20 - 8:30pm (weather make-up date: May 27)

#### Annual ACA Telescope Seminar!



Our members will briefly describe each of the types of telescopes and answer questions. Did you receive a telescope as a gift and have no idea how to use it? Bring it along and let our experienced members help you with setup and use.

### June 3 - 6:00pm

#### Solar / Lunar Event / Hot Dog Roast!



Our annual hot-dog extravaganza! Come and see the Sun in our specially-equipped telescopes for SAFE viewing of the Sun. Also, we're highlighting our closest celestial neighbor, the Moon! If you've never seen the Moon up close and personal, you owe it to yourself to take advantage of this event.

### June 17 - 9:00pm

Featured constellations: Bootes; Draco; Libra; Ursa Minor  
Featured planet: Jupiter

### July 8 - 9:00pm

Featured constellations: Canes Venatici; Hercules; Serpens  
Featured planet: Jupiter

### July 22 - 9:00pm

Featured constellations: Canes Venatici; Hercules; Serpens  
Featured planet: Jupiter

### Aug 5 - 8:30pm

Featured constellations: Coma Berenices; Corona Borealis; Lyra  
Featured planet: Jupiter

### Aug 19 - 8:30pm

Featured constellations: Coma Berenices; Corona Borealis; Lyra  
Featured planet: Jupiter

### Sep 23 - 8:00pm (weather make-up date: Sep 30)

Featured constellations: Aquila; Capricornus; Cygnus; Delphinus; Equuleus  
Featured planet: Neptune

### Oct 21 - 7:30pm (weather make-up date: Oct 28)

Featured constellations: Aquarius; Cepheus; Lacerta; Pegasus  
Featured planets: Neptune; Uranus

### Nov 25 - 7:30pm (weather make-up date: Dec 2)

Featured constellations: Andromeda; Cassiopeia; Sculptor  
Featured planet: Uranus

### Dec 16 - 7:30pm

Featured constellations: Aries; Cetus; Fornax; Perseus  
Featured planet: Uranus

We are located at:  
**Portage Lakes State Park**  
**5031 Manchester Rd.**  
**Akron, OH 44319**

# Getting Started in Astronomy

Getting started in astronomy as a hobby isn't necessarily as expensive as most people think. While it's easy to spend several thousand dollars on high-end equipment, most skywatchers begin their odyssey with little more than an inexpensive skychart and their own eyes. Taking it one step farther, a modest pair of 10x50 binoculars can be had for less than \$50. While binoculars are seemingly less glamorous than a telescope, the views offered are nothing short of incredible. Many deep-space objects are visible and the sheer number of stars that are revealed will delight and amaze.

While the temptation to purchase an inexpensive, department store telescope can be overwhelming, you should think twice before taking the plunge. The optical quality is often enough to discourage rather than encourage. Claims of super-high magnification are nothing but smoke and mirrors in the world of amateur astronomy. How much light your instrument can collect and effectively bring to your eye is what really matters. It's not at all unreasonable to expect pricing in the \$300 dollar range for a reliable and more importantly, useful telescope. It's really worth waiting and saving for such an instrument if need be.

The Astronomy Club of Akron (ACA) hosts public viewing events, also known as "star parties," throughout the year (see reverse side for dates and times). As a non-profit entity with public education as our goal, the ACA's mission is to bring astronomy to you! Our public events are designed to teach and to foster interest in amateur astronomy. This being the case, our permanent observatory facility at the Portage Lakes State Park houses a 14 inch, computerized, Schmidt Cassegrain telescope. This instrument is the centerpiece of our public star parties and everybody is welcome to have a look through the eyepiece at whatever happens to be targeted. We enjoy answering questions and requests to see astronomical objects are gladly accepted. In addition to our observatory, you will find members scattered around the property, expertly manning their own private telescopes and binoculars. Again, questions are welcome as is the opportunity to show you

astronomical wonders through a variety of brands and optical designs. If you don't currently own a telescope but are considering purchasing one, our public star parties are fantastic sources of information. Come and see the many choices and options available and see how much more informed a purchasing decision you can make afterward!

As a non-profit organization, the ACA exists and operates through a combination of charitable donations and membership dues. If you'd like to be a member, you will know that your dues help to support our recurring expenses and purchase of new and replacement equipment. You will also receive discounts on annual subscriptions to *Sky & Telescope* and *Astronomy* magazines and will be able to borrow ACA loaner telescopes. You will be invited to our members-only events and will be eligible to vote on club issues. Even more important, you will know that you are part of our effort to teach and enlighten those who may never have been exposed to astronomy in any other way.



# The Night Sky

Newsletter of the Astronomy Club of Akron

c/o Ray Hyer, Editor

725 Brewer St

Akron, OH 44305-2103

To join the ACA, **or to renew your membership**, please fill out the form below, place in an envelope and mail to the address shown in the return address area of the form.

*Please be sure to enclose payment for the membership level desired.*

**The Astronomy Club of Akron**  
c/o Diane North, Treasurer  
795 Mohawk Ave  
Akron, OH 44305-1811

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

[www.acaoh.org](http://www.acaoh.org)  
(PLEASE PRINT)

NAME: \_\_\_\_\_ PHONE: \_\_\_\_\_

ADDRESS: \_\_\_\_\_

CITY: \_\_\_\_\_ STATE: \_\_\_\_\_ ZIP: \_\_\_\_\_

EMAIL ADDRESS: \_\_\_\_\_

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

ADULT (ages 18 and older)..... \$30.00

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

ADDITIONAL ADULT member ..... \$15.00

FAMILY MEMBERSHIP .....\$40.00

I realize the full color version of *The Night Sky* newsletter is available for download by members from our web page at [www.acaoh.org](http://www.acaoh.org), but I would rather have the B&W version mailed to my address via USPS.