

Prairie Skies Star Party

By Jack Brisbin

The Prairie Skies Star Party is located at Camp Shaw-Waw-Nas-See 4 H camp near Bourbonnais Illinois this is the old Astrofest site. In the early 80's and 90's a group of Lowbrows would attend Astrofest because of its Amateur Telescope Making focus. So what changed? Based on bits and pieces obtained from various sources and sources to remain un-named. The *officers* of the Chicago Astronomical Society (CAS) decided to move Astrofest to Vanas RV campground on the other side of Kankakee. Some of the members of the CAS that were running Astrofest at Camp-Shaw-Waw-Nas-See, disagreed with the decision. Now there are two sides to every story and each one will claim the other one made the wrong decision. As they say in the world of journalism "we can beat this story to death and nothing will change".

As the story goes, person or *persons* signed a contract with Camp Shaw-Waw-Nas-See and bank rolled the first Prairie Skies Star Party and the rest is history as they say. They still have a special emphasis on amateur telescope making and recognize those indi-



viduals through ATM awards and telescope accessory awards. This year we had clear skies Friday and Saturday. So how well is Prairie Skies doing after a few years. Its beginning to pick up they had a couple hundred attendees, picture (1) Some of the vendors are returning as evidenced by picture (2).

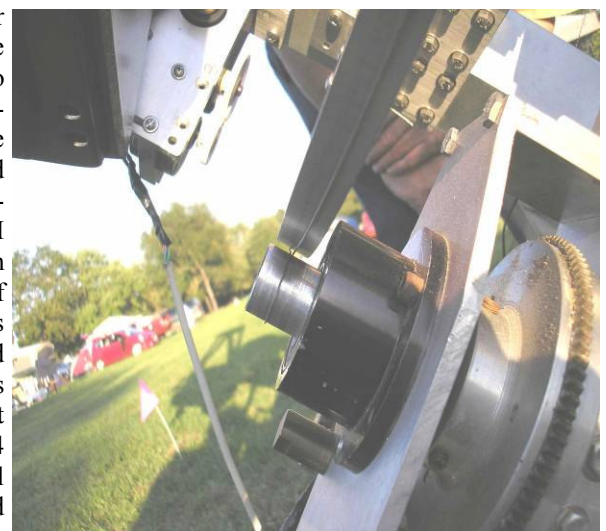


There are a lot of amateur astronomers from the Chicago area that will attend if clear skies are predicted. Because the camp is located in the Kankakee State Park system there are many day time activities that families can do that are supervised by the State park.

If you don't feel like running into town, then you can stay onsite. They have restrooms, showers and porta johns. They also have onsite caterer as well as Midnight Chili and *Astrodogs*



The Astrodogs are hotdogs or kielbasa, I don't want the Human Society or PETA to misinterpret what an Astrodog is. One of my favorite past times is walking around the observing field and looking at some of the ATM scopes. Picture 3 is a 15 inch F4.5 telescope all made of aluminum. The various grades aluminum are bolted or screwed together, there is no welding. It is a fork mount design but look at picture 4 and follow the arrow you will see a wire wrapped around the output shaft of the clock



drive. The wire moves a drive arm that moves the telescope so it can track objects. He has a digital tracking system installed for general observing and astrophotography. He installed a CCD camera and hooked it up to a portable DVD player so people can look at the DVD player and see object/image he is observing. Something like a big electronic eyepiece that some Lowbrows have discussed doing. The ATM judges liked the scope and at the dinner banquet the ATM

Committee presented him with an Amateur Telescope Making Certificate for his work. This guy deserves it. This brings up the other ATM Award that was presented. *It was presented to me!* See picture 5. It was for the 8" f/4.5 telescope that I redesigned using a focal extender/corrector that changes it to f7.4. I designed it using the ATMOS design software. This has been a long-term project in trying to understand the difference between, what is designed using a software program and what you actually see through the telescope. Does the image look like the design? You won't know until you build the extender/corrector design and install it in a tele-



scope and observe with it. I did not do the lens work. I purchased the optical parts from JML Optical. At first I had some spacing and alignment problems because the tolerances were more critical than I thought. On picture 6 the inscription on the certificate reads "8" f/4.5 Optically Reconfigured To f7.4 Using Specially Designed Lens Assembly"



Lowbrows Observe at 12 below on Coldest Night of the Year

By John Causland

You've all heard that there's some kind of insanity that goes along with exposure to extreme cold temperatures. People have been known to take clothes off when they're freezing and about to die (seriously!). Lowbrows just get out their scopes!

Nine of us found ourselves sitting around a 4 person table at Good Time Charley's after the Club meeting Friday night 12/16/09.

It might have been the telescopes on display at the club meeting that created a temporary fever-like condition that pre-warmed us. But, after a round of 2 pitchers of Killians and a huge plate of chicken tacos, someone said, "Let's Obsuhvate!" Yumi, Yasu, Mike Radwick, Jason and Causland raised their glasses. Needless to say, this took a kind of mob mentality of the astronomically insane to make happen. None of us in our right minds would do this alone.



I quickly headed back to the driveway ahead of the expected crowds to cool down (freeze up, that is) the 2 already set up scopes, from the garage temperature of about 32 to the 9 below the National Weather Service was reporting at 11 p.m. By 11:30, a literal handful of five Lowbrows were tending eyepieces and jumping up and down, both at the thought of seeing real stars and to keep their feet warm. Yes, of course, object one was through the Rubin 16 on M42, the Orion Nebula. But, hands down winner through the 61 (Starmaster 24), was the Eskimo planetary in Gemini. Clearly laughing with us from under his hood. The only real way to be inspired for saying we

"done do" (as the missing Kingfish would say) the coldest night of the year!

With Canis Major due south, obvious great targets were M46 and 47. Then the Mexican jumping star cluster. And M35 and M1 (the Crab)

M62 (open cluster in Cancer) M78, (reflection nebula in Orion), M38 (and a little cluster NGC1907).

Not long after midnight, we retired to the Japanese water boiler for hot tea and a planning session. Easier to think of available sights when not distracted by freezing extremities. Imagined objects in our sights, we headed back out. Curiously, the electronics on the 61 didn't miss a beat! The Argo Navis digital setting circles box has a built in heater. It did get a tiny bit sluggish and the readout dimmer, but performed like a champ telling the drive system to slew. And the near dead on alignment didn't budge either for the entire 2 hours. Still haven't found a reason to want to kick a Starmaster, not even at these temperatures!



We'd realized on planning that M81, 82 are about as high as they ever get at this time of the year. Would not have been obvious choices but glad we went there. With quite a bit of high atmosphere frozen haze, objects like M97, the Owl, wouldn't pop. But for the finale, Saturn had just risen above our tree line. And what a finale! Rings almost edge on now!!! Only a frozen Lowbrow could appreciate a Saturn with a practically nonexistent ring plane.

And so, at 1:30 a.m., this was really ringing in the new observing year for these Lowbrows, saluting each other with the Vulcan peace sign. And the weather service proclaiming 12 below!



Some Cool Events for 2009

By Doug Nell

Here are some things for you to keep an eye out for this year. These are one time events and not a list of deep sky objects to challenge you.

Eclipses: Well the bad news here is that there are no Lunar or Solar eclipses of any note visible in Michigan this year. There are no total Lunar eclipses visible anywhere on earth this year.

Planetary conjunctions: I culled the list down to events where the 2 planets are less than a degree apart and visible together in a telescope. The poor news here is that almost all of these events will be visible only during morning twilight and you will need an excellent eastern horizon.

Feb.17th: Jupiter and Mars, 34' apart.

Feb 23rd, 24th: Jupiter and Mercury, ~40' apart.

March 1st, 2nd: Mars and Mercury, ~40' apart.

April 15th: Mars and Uranus, ~30' apart

3 times Jupiter and Neptune make a close approach: May 27th, July 9th, and Dec. 21st. The last 2 are particularly good in that the planets are well up at the beginning (for July) or end (for Dec.) of astronomical twilight. It should be noted that The 2 planets are very close for a 3-4 day window around these dates.

Oct.13th: Venus and Saturn, a little better morning conjunction than the ones earlier in the year. Venus and Saturn are 10 degrees up with the Sun 10 degrees down at 6:50 in the morning. The only down side is that Saturn's rings are nearly edge on and Venus is almost a full disk.

Lunar occultations: This gives us a little better opportunity for some events. As many of you may know the moon is in the northern point of its orbit and is occultating the Pleiades on a regular basis through 2010. 4 events are visible from North America this year.

Feb. 3rd, Aug. 14th, Nov. 4th, and Dec. 28th. The Moon is well up for all the events though the August event occurs during twilight. For more info go to: www.lunar-occultations.com/iota/pleiades.htm

There is one more event I will mention though care needs to be exercised in order to observe it. On the morning of April 22nd the Moon will occult Venus during daylight. A very old Moon will cover up Venus at about 8:50 in the morning. It must be noted that the Sun is 33 degrees away to the southeast when this occurs. You should set your telescope up so that you can continuously move it into a shadow cast by a building or other solid and sturdy obstruction so that you can never point it at the Sun. This cannot be stressed too highly. You should never look at the Sun with your eyes or any optical aid without proper filtration. I have traced Venus many times well after sunrise naked eye by noting where it is in relation to a phone pole or roof corner during twilight and marking the ground where I am standing and can move a little more to the east with the passing moments while keeping Venus above/next to my reference point.

The binocular highlight of the spring may be on the evening of March 5th when comet C/2007 N3 Lulin will pass less than 2 degrees from the center of M44 the Beehive in Cancer. A 9 day old Moon that is 30 degrees higher up to the west gives us a little inference. Actually the comet is within 4 degrees of the center of the cluster from the 4th to the 7th. So I would plan on the 4th, with a day younger Moon 12 degrees further away. The comet will be a naked eye object from a dark site and an easy binocular object from suburban areas.

Jupiter and Saturn: Both these Planets are going through their respective equinoxes this year. What this means for Jupiter is that not only will we see shadow transits of the 4 Galilean satellites across the face of the planet but we will be able to see one moon occult (appear to go in front of) another moon or eclipse (put into shadow) another moon. Times of these events can be found in the RASC Observers guide and will also most likely be posted in Sky and Telescope and Astronomy magazines. Another cool thing that will happen is that while a moon is transiting the face of Jupiter it can occult the shadow of another moon! If I can find times for these events I will send them to this newsletter. I had never thought of this!

Another thing I had not considered is that while many people will ignore Saturn because there will be no beautiful rings opened up for us to see, there is 1 thing that only occurs at this time. The transit of the shadow of Titan across the face of Saturn! It would take a 10" scope with a very good mirror and good seeing to make out Titan's .8 arcsec disk. But resolution is also a factor of contrast. So an 8" scope ought to be able to pick up the black shadow against the bright planet. Steady air and 30-40 power per inch will be needed. The times of the events can be found on page 338 of the RASC guide. I can't wait to try this one.

There is one last event I am going to mention but I must state very bluntly that no one should try this by themselves, or perhaps not at all. On March 27th Venus goes through inferior conjunction. Many of us safely observed this event during the rare transit across the sun by Venus a few years ago. But our telescopes were safely filtered. Most of the time we don't see Venus go in front of the Sun during its motion between the Sun and us. In fact it only occurs at 8 year intervals every 120 years. The rest of the time it passes some amount of degrees above or below the Sun from our vantage point. Venus passes 8 degrees above the Sun this year. What you would see through an un-solar filtered telescope is a nearly complete annulus 1 arc-minute across. I hope the previous 2 sentences have scared most of you off. Very serious eye damage or blindness is guaranteed if you look at the sun without a properly filtered telescope! I have seen where this observation is made by using a motor driven equatorially mounted and polar aligned refractor (because refractors usually have less scattered light) using an occulting board placed many feet above the scope that keeps the scope in shadow while allowing it to view above or below the Sun. The board has to be very secure and be able to be moved to follow the sun. This is why it takes several people to accomplish this feat. People have to be manning the occulting board at all times and some one else has to man a safety board to put in front of the scope immediately if something happens to the primary occulting board. Putting a long sunshade on the front of the objective is also a very good idea. Once again I state flat out that you do not in any way attempt this by yourself or even at all without very serious consideration to your and others safety.

This is just a few of the 1 time events that will occur this year. If you have more send them to your newsletter!

THE UNIVERSE
YOURS TO DISCOVER



INTERNATIONAL YEAR OF
ASTRONOMY
2009

A Scope via Craig's List, eBay, and AstroMart

By Tom Stoner

I've had telescopes before; the first having been an early model Meade 4500 4.5 inch Newtonian reflector I purchased used on eBay. That scope wasn't at all well packaged by the seller and ended up damaged in transit, which has since made me very reluctant to purchase anything fragile via any means that will include rides in the back of big brown (or white, or yellow) trucks.

Happily that Meade 4500 shipment was insured and no one tried to confirm it had been packaged to meet any particular good standard before they paid a full insured-value claim. I ended up with a battered, but not destroyed scope, basically for the cost of none too gentle shipping across the country. Meade was contacted and for a reasonable price was able to provide replacements for the broken diecast pieces, while the OTA was disassembled and the dents were pressed out of the metal tube. In the end I had a fully functional but somewhat scarred little scope, for a bit of sweat equity and not much additional cost.

Over a couple of years in the early 1990's, this manually aimed instrument happily meet the demands of my extremely casual observing schedule, but eventually aperture envy took over and the local Ryder's shop took my order for a new Meade Starfinder 8, eight inch reflector on a Dobsonian mount. The little Meade 4500 moved on to a new (and hopefully more active in their observing habits) owner.

Over the next few years a number of accessories for the Dob were obtained. A 9 x 60mm right angle finder scope was fastened onto the scope's wound cardboard tube. That necessitated a Velcro-mounted counterweight at the lower end of the tube. Filters, and an expensive collection of Vixen LV long eye-relief eyepieces were obtained from various sources – most primarily the AstroMart web site.

Eventually however my only very occasional observing habits were caught up in a desire to empty out a corner of my dining room. First the scope itself was sold, and then some of the filters and all of the Vixen eyepieces were sent off to new homes. Soon, only one or two filters, a couple Orion eyepieces, the 60mm RA finder, and a laser collimator remained from my experiments with home observing, tucked away in a corner of a closet.

It had not been long after I'd purchased the big Dob that I'd become aware of the then (I think) new Meade ETX-90 scope. Now the first time I'd hauled that f6, 8 inch Dobsonian scope to our cabin near Traverse City in the back seat of my Supercab pickup, the neighbors later admitted they thought I'd purchased a new water heater. They wondered why I hadn't simply thrown it into the bed of the truck for the trip to the cabin. That scope's size certainly reduced my interest in packing up and heading out for a dark site for some observing. I'd most frequently set up on the sidewalk in front of my house in Ann Arbor, to give the neighborhood kids early evening views of Saturn's rings and craters on the moon.

The ETX-90 or a like design looked attractive to me, primarily because of its obvious portability. Also because I'd never had a scope on a mount that could be aligned to automatically track objects, the ETX held additional attraction. When the Starfinder 8 was sold, I told myself that if I ever purchased another scope it should be one like an ETX.



I really wasn't looking to finally buy another scope in the fall of 2008 when I noticed a Meade ETX-105 listed for sale locally on Craig's List. The bargain price caught my eye however, and after a short telephone conversation with the seller I knew I was hooked. A visit to inspect the scope was scheduled, and I made sure to take along the asking price in cash, in case the scope, tripod and mount turned out to be as nice as had been presented.

Of course the whole reason for this story is that I do now own that ETX-105. The only concerns evident when I inspected it, were the combination spreader bar – eyepiece tray for the tripod and the AutoStar hand controller were missing.

I'd done a bit of online research before going to inspect the scope and knew the tripod originally had come with a blue fabric carry case and that case had a pocket in which to store the spreader bar – tray and possibly other accessories. The carry case was missing from this scope, and I presume along with it the spreader bar – tray and the controller. I knew the controller was available from Meade as a separate product, and from my previous experience buying replacement parts for the 4500, I thought the spreader bar – tray assembly would be available as well.

Wrong! Meade doesn't sell the spreader – tray separately; not to me and not to Ryder's, to resell to me either. Their unbelievable suggestion as a solution was to purchase a whole new tripod, which of course they would be happy to supply. Not a good solution, with a modest budget in mind.

In some additional online searching, I found that a nice replacement combination spreader and tray had been available under the brand Star Tek, but apparently is no longer being manufactured. "Wanted" ads on AstroMart indicate I would have plenty of competition in finding one of them too.

John Kirchhoff from Ryder's very kindly searched his resources late last fall for a replacement spreader – tray too, and told me about one available from Astronomy Shoppe in New Hampshire, but holiday shopping for others drew away my attention and I've not ordered one as of yet.

Although I haven't tried as of yet, I believe this compact scope and all its accessories will fit comfortably into the trunk of my Corvette convertible, in case I find myself wanting to get to Peach Mountain or some other dark observing site quickly some night. Of course it will fit just as easily into the back seat of my Olds Alero sedan too.



As for accessories, eBay provided a source for a replacement AutoStar controller as well as some additional Meade ETX accessories. Apparently a sad result of the current economy; I found a company in Pennsylvania liquidating the inventory of a hobby distributor. From them I was able to purchase a new controller as well as a dew hood and electric focuser for the ETX-105 all at deep discounted prices.

Because I'd sold my previous collection of Vixen LV eyepieces, I was once again in the market for a variety of eyepieces as well. New ETX scopes apparently all come with a 26mm Super Plössl eyepiece that's reportedly decent, and following my Lasik surgery of about 3 years ago eye relief isn't nearly the issue it was when I wore corrective lenses. I hope my vision remains that way following my upcoming cataract surgery because on AstroMart I found and purchased a boxed set of the Meade Super Plössl eyepieces. This is a set of eight, ranging in length from 6.4mm to 40mm, and hopefully they will meet my still casual observing needs well.

So in the end, I think I've been able to assemble a nice little observing system that, even after I've finally purchased that new spreader – tray, will have cost considerably less than the basic scope cost new. When spring finally arrives I'll be teaching myself how to properly set everything up so that the scope will find and track the objects this old rookie astronomer might want to observe.

Tom Stoner

University Lowbrow Astronomers

Huron Valley Corvette Club

Sandhill Soaring Club

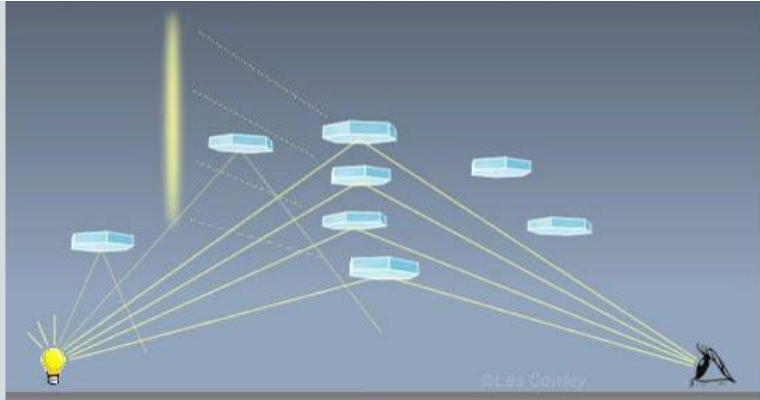
Atmospheric Optical Phenomena

By Mark S Deprest

In my many years (54 of them) on this spinning ball of cosmic flotsam, I have seen many wonderful and amazing things. Some of these have been man-made, but those that were naturally created seem to hold a special place in my memory. The geological spectacles of the National Parks like Grand Canyon, Arches, Bryce, Yellowstone and Sequoia to name a few are sights that everyone should see and although these are dynamic and changing, its on a geological time scale. Lightning, Aurora, Rainbows, Sun & Moon Halos, Sun-dogs, and Sun Pillars are also dynamic and changing but are brief and fleeting on a time scale of minutes or seconds, so in order to see any of these things one needs to be in the right place at the right time and looking in the right direction.

Recently I was in the right place, at the right time, and was looking in the right direction. The results fortunately were caught on my cell phone's camera as Sun Pillars.





Unlike the crystals producing sun pillars, those making tall artificial light pillars need not be strongly tilted. The column producing pillars are approximately midway between the eye and the light source. The higher the crystals in the atmosphere, the taller is the pillar. When the crystals are very high - or the light sources are close - the pillars seem to radiate from overhead, the zenith.

Sun Pillars are caused by “plate-like” crystals in the atmosphere. Normally these plate-like crystals only form in the high clouds, but sometimes when the temperature is very cold near the ground these plate-like crystals can form much lower in the atmosphere and then very strange and wonderful things can happen.

On the morning of January 12th 2009 that happened and on my way into work, around 05:30, I witnessed something that just blew me away! Unfortunately I was driving at the time and wasn't able to get a picture of exactly what I was seeing. However, as luck would have it, the Astronomy Picture of the Day website featured a picture that same day of the phenomena I saw!

Now, there seemed to be some question as to why these “Light Pillars” fan out at the top and the answer (although slightly debated) is that toward the top of these pillars a different shaped crystal is more prevalent; this type is called a “horizontal column” crystal.

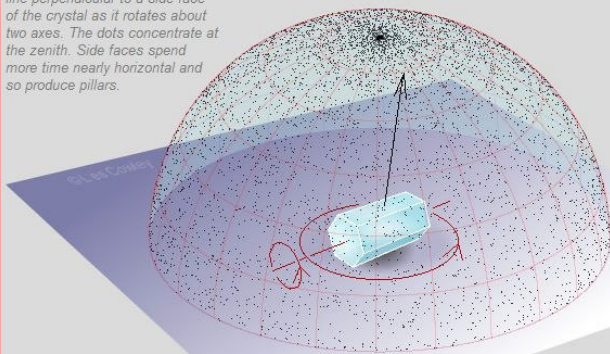
Whenever I see atmospheric optical phenomena I like to find out how they were created and the website that usually does the best job is: www.atoptics.co.uk. Knowing how and why they happen gives me a greater appreciation of “being in the right place, at the right time and looking in the right direction.”

Getting back to the “light-cicles” (my name for them) that I saw on my way into work at 05:30 on that frigid morning, I wasn't able to see the source of my light-cicles due to intervening trees

and houses, so they appeared to me to look a lot like curtains of aurora. One problem, they were only in my southern sky! Also, as I drove east on Geddes road, parallel to my light-cicles their aspect to one another changed, which indicated that they were hanging in mid-air at differing distances from me. My light-cicles were different colors and only the brightest ones tending to fan out at the top. I was totally mystified by what I saw and as I turned my car south onto Canton Center road, I discovered the source of my light-cicles; the poorly shielded parking lot lights of the Home Depot / Kroger's at the corner of Michigan avenue and Canton Center road. The differ-



Each dot represents the tip of a line perpendicular to a side face of the crystal as it rotates about two axes. The dots concentrate at the zenith. Side faces spend more time nearly horizontal and so produce pillars.



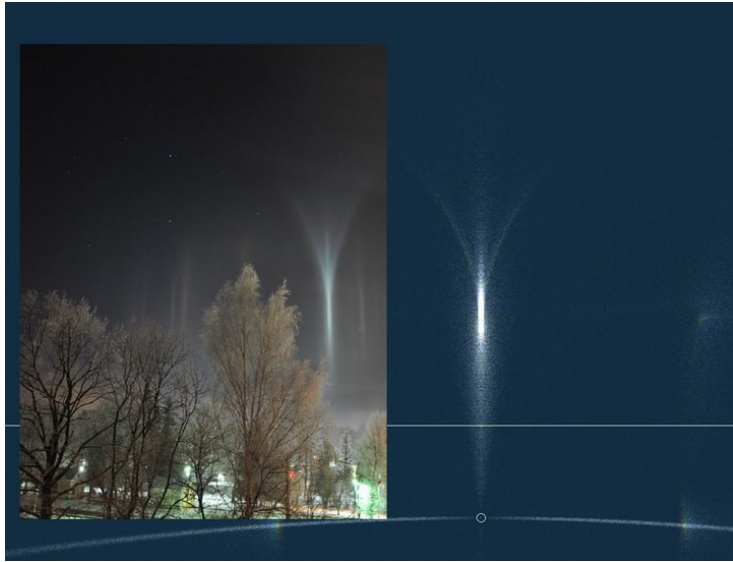
How can horizontal column crystals make pillars? Pillars are created by reflections from approximately horizontal crystal faces but the side faces of columns are inclined at all angles.



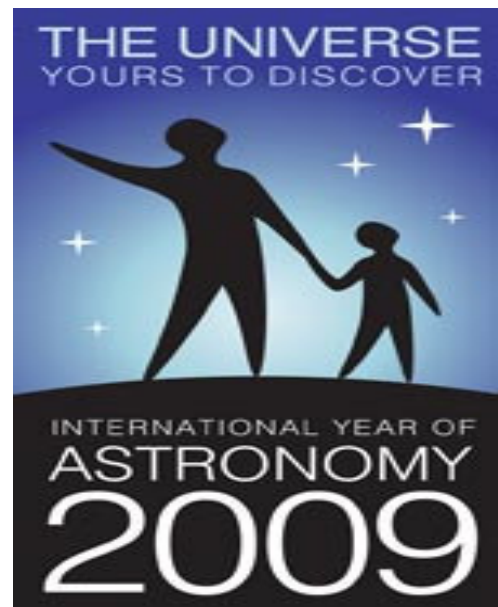
Column crystals probably produced this pillar imaged at Oslo, Norway by Erik Brenna (site). The pillar is unusually tall, some 20°, and is topped by an intense upper tangent arc also generated by singly oriented columns. ©Erik Brenna, shown with permission.

ent colors were a result of the different types of lights; low pressure sodium lights were yellow-orange, halogen lights were white and the mercury vapor lights were blue-white. Although these light-cicles were the result of something man-made, they did have to be combined with just the right natural conditions and that makes them wonderful and amazing!

The following images will help you understand the dynamics of what I saw. For more info please check out the Atmospheric Optics website at: www.atoptics.co.uk.



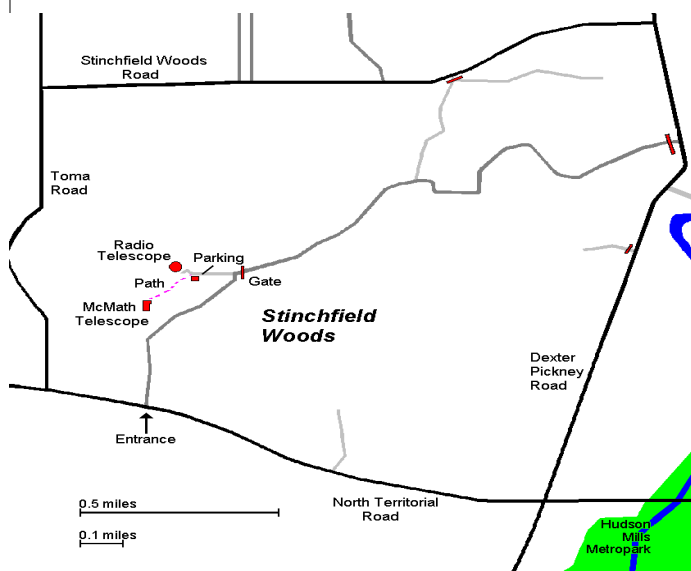
These pictures appear with the permission of the photographer Aigars Truhins. The graphics are used with permission from the website www.atoptics.co.uk



Places & Times

Dennison Hall, also known as The University of Michigan's Physics & Astronomy building, is the site of the monthly meeting of the University Lowbrow Astronomers. Dennison Hall can be found on Church Street about one block north of South University Avenue in Ann Arbor, MI. The meetings are usually held in room 130, and on the 3rd Friday of each month at 7:30 pm. During the summer months and when weather permits, a club observing session at the Peach Mountain Observatory will follow the meeting.

Peach Mountain Observatory is the home of the University of Michigan's 25 meter radio telescope as well as the University's McMath 24" telescope which is maintained and operated by the Lowbrows. The observatory is located northwest of Dexter, MI; the entrance is on North Territorial Rd. 1.1 miles west of Dexter-Pinckney Rd. A small maize & blue sign on the north side of the road marks the gate. Follow the gravel road to the top of the hill and a parking area near the radio telescopes, then walk along the path between the two fenced in areas (about 300 feet) to reach the McMath telescope building.



Public Open House / Star Parties

Public Open Houses / Star Parties are generally held on the Saturdays before and after the New Moon at the Peach Mountain observatory, but are usually cancelled if the sky is cloudy at sunset or the temperature is below 10 degrees F. For the most up to date info on the Open House / Star Party status call: (734)332-9132. Many members bring their telescope to share with the public and visitors are welcome to do the same. Peach Mountain is home to millions of hungry mosquitoes, so apply bug repellent, and it can get rather cold at night, please dress accordingly.



Membership

Membership dues in the University Lowbrow Astronomers are \$20 per year for individuals or families, \$12 per year for students and seniors (age 55+) and \$5 if you live outside of the Lower Peninsula of Michigan.

This entitles you to the access to our monthly Newsletters on-line at our website and use of the 24" McMath telescope (after some training).

A hard copy of the Newsletter can be obtained with an additional \$12 annual fee to cover printing and postage. Dues can be paid at the monthly meetings or by check made out to University Lowbrow Astronomers and mailed to:

The University Lowbrow Astronomer c/o Yasuharu Inugi

**2918 W Clark Rd #203
Ypsilanti, MI 48197**

Membership in the Lowbrows can also get you a discount on these magazine subscriptions:

Sky & Telescope - \$32.95 / year

Astronomy - \$34.00 / year or \$60.00 for 2 years

For more information contact the club Treasurer. Members renewing their subscriptions are reminded to provide the renewal notice along with your check to the club Treasurer. Please make your check out to: "University Lowbrow Astronomers"

Newsletter Contributions

Members and (non-members) are encouraged to write about any astronomy related topic of interest.

Call or Email the Newsletter Editor: **Mark S Deprest (734)223-0262 or msdeprest@comcast.net** to discuss length and format. Announcements, articles and images are due by the 1st day of the month as publication is the 7th.

Telephone Numbers

President:	Charlie Nielsen	(734) 747-6585
Vice Presidents:	Jim Forrester	(734) 663-1638
	Ken Cook	(734)769-7468
	Mike Kurylo	(517)223-7585
	Belinda Leeb	(313)600-9210
Treasurer:	Yasuharu Inugi	(734)434-9544
Observatory Director:	D. C. Moons	(586) 254-9439
Newsletter Editor:	Mark S Deprest	(734) 223-0262
Key-holders:	Jim Forrester	(734) 663-1638
	Fred Schebor	(734) 426-2363
	Charlie Nielsen	(734) 747-6585
Webmaster	Dave Snyder	(734) 747-6537

Lowbrow's Home Page

<http://www.umich.edu/~lowbrows/>

Email at:

Lowbrow-members@umich.edu

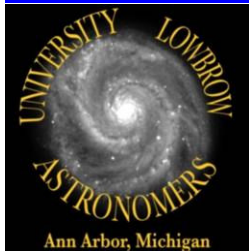


University Lowbrow Astronomers

Yasuharu Inugi
2918 W Clark Rd #203
Ypsilanti, MI 48197

Phone: 734-434-9544
E-mail: yinugi@hotmail.com

Reflections & Refractions

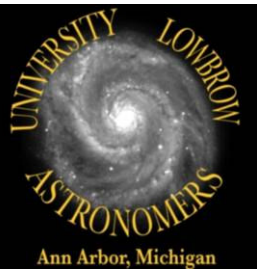


Website

www.umich.edu/~lowbrows/



Image by Ronald D Lesley, D.D., Ph.D. of Shelby, NC Taken with a Nikon Digital Camera thru a Meade 16" Dobsonian . Ronald is one of our out of state Lowbrows, and a college basketball fan, he likes the Tar Heels and the Blue Devils! (I like this guy!!!)



University Lowbrow Astronomers
2918 W Clark Rd #203
Ypsilanti, MI 48197

Check your membership expiration date on the mailing label