

REFLECTIONS / REFRACTIONS

University Lowbrow
Astronomers

REFLECTIONS \ REFRACTIONS

APRIL 2013

Volume 37, Issue 4

C2011/L4 PanSTARRS

Lowbrows Go Comet Hunting



Doug Scobel caught the comet just before it disappeared below a neighbor's house March 13. The following evening, he took the shot below from his driveway.



--Continued on Page Three--

All That Filthy Lucre:

2012-1013 Treasurer's Report

Submitted by Doug Scobel
TreasurerUniversity Lowbrow Astronomers Balance Sheet 2012 (01 April 2012 - 31 March 2013)Income

Dues	\$1,522.00
Extra for mailed newsletter	\$144.00
Magazine subscriptions	\$528.95
Donations/Gifts	\$166.00
Shirt sales	\$80.00
Shipping charges	\$10.00
RASC publication payments	\$949.00

Total Income \$3,399.95Balance 01 April 2012 \$7,362.57Plus Income \$3,399.95Minus Expenses \$2,708.26Balance 31 March 2013 \$8,054.26Expenses

Phone (AT&T Messaging)	\$190.20
Newsletter printing/ mailing	\$74.79
Magazine subscriptions	\$528.95
Donations	\$717.50
Guest speaker expenses	\$0.00
Shipping/ mailing	\$30.47
RASC publications	\$859.70
McMath maintenance	\$0.00
Miscellaneous	\$306.65
<u>Total Expenses</u>	<u>\$2,708.26</u>

T-shirt inventory 23

Lowbrow Officer Nominations 2013-2014

President--Charlie Nielsen
 Vice-President--Belinda Lee
 Vice-President--Jack Brisbin
 Vice-President--Dave Snyder
 Vice-President-- ?

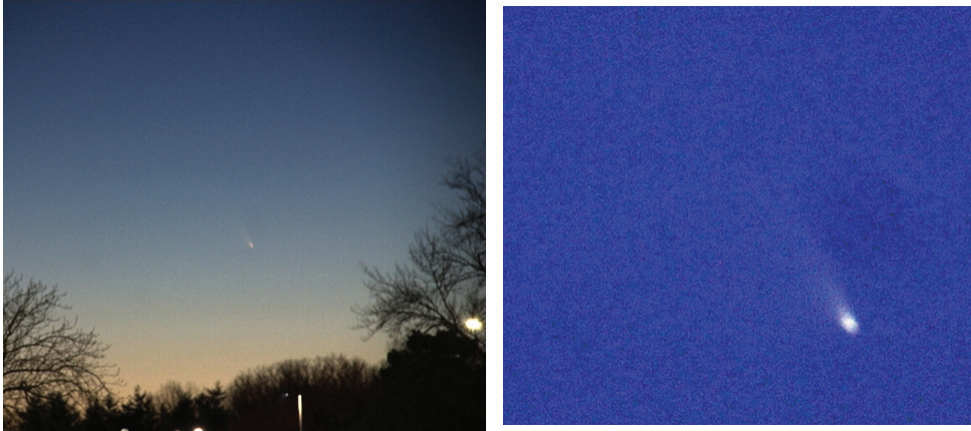
Treasurer--Doug Scobel
 Newsletter Editor--Jim Forrester
 Webmaster--Krishna Rao
 Observatory Director--
 Mike Radwick

All of the above have agreed to serve until the April, 2014 monthly meeting when the next officers' elections take place. Additionally, Belinda Lee, Mary Celeste and Dave Snyder will be assisting the new webmaster. You will notice one of the vice-president positions has no nominee. A long Lowbrow tradition has seen members absent from the April meeting being elected to vacant positions. The wise will protect their interests by attending.--ed.

Lowbrows Go Comet Hunting

--Continued from Page One--

Dipankar Maitra sent in this shot he and his wife Rachel took on March 13. The image on the right is blown up from the one on the left.



Lowbrows were also out with their scopes and binoculars on March 12-14. Here are samples of what they saw:

March 12 John Kirchoff sent this message: *The sky gods threw me a bone tonight! After snowing and overcast at 7:30 PM, the western sky cleared up just enough to afford a peek at Pan-STARRS. Picked up the crescent moon around 8:00 PM EDT and the comet about 15 minutes later one field to the immediate left in my 10x50 binocs. The comet was quite bright and elongated and a 1/2 degree tail was evident oriented towards 11:00 o'clock. I was unable to see the comet naked eye, but it was an easy binocular target. The show was over by 8:30.*

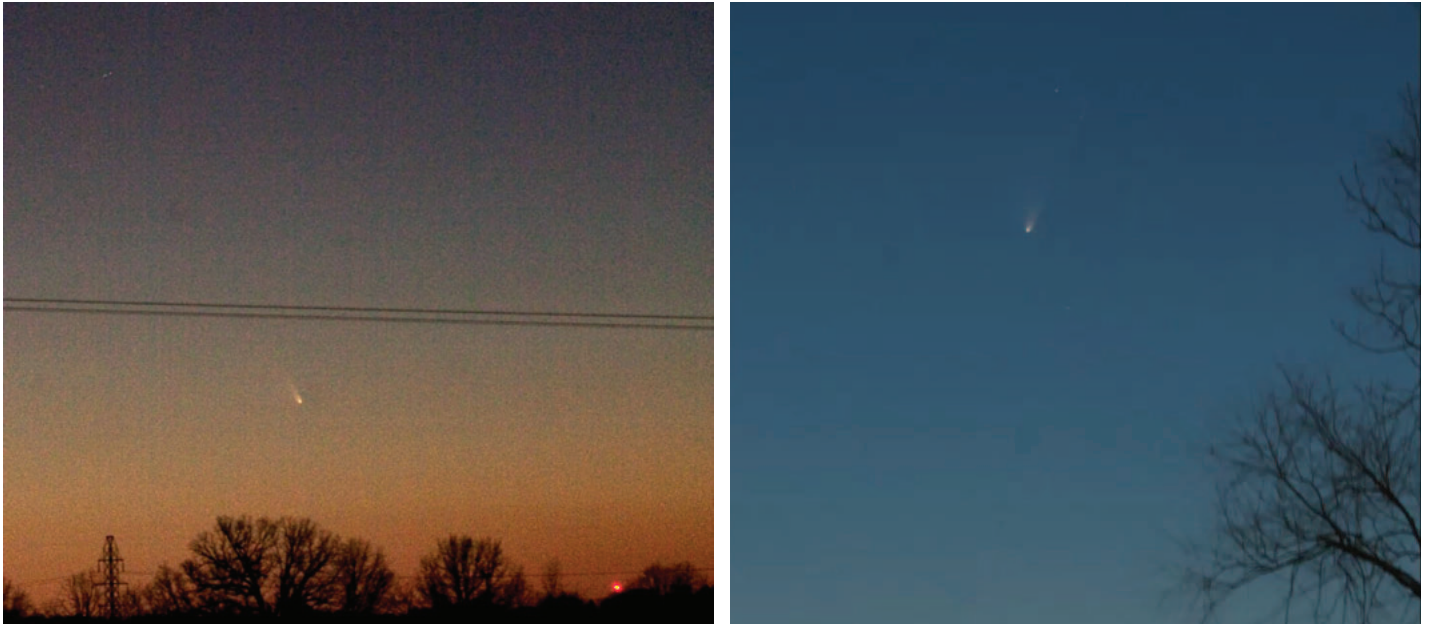
Charlie Nielsen saw it the next evening: *...I pushed myself out for a look...and was shocked to see it from my back deck, just a foot or two outside the door, over my neighbor's roof and still plenty bright outside. I followed the moon down toward the sun and noticed something faint I thought for a second was Mars. Then it occurred to me that it was too high for Mars and I couldn't focus perfectly on it. Deployed the binos and there she was! Very pretty and well defined.*

Chris Sarnecki spied it March 13 as well: *I bagged it from a high point on an eastern fairway (Ann Arbor Country Club, Loch Alpine) at 8:16, up at about 10 degrees. Nucleus is fuzzy, not so stellar, in 8x56 tripod mounted binocs. An approximately 1/2 degree wide tail clearly arched southward angling 20 degrees from vertical. Picked it up naked eye at 8:26 thanks to a clear, cold Michigan twilight.*

Clay Kessler captured this image March 14: *The comet was very easy to spot once it got dark enough. It made an interesting sight peeking through the evening clouds and smoooge (technical term).*

I used the Canon 60Da on a tripod with a Sigma 18-250mm IS lens set at 250mm. 2.5 seconds at ISO 800.

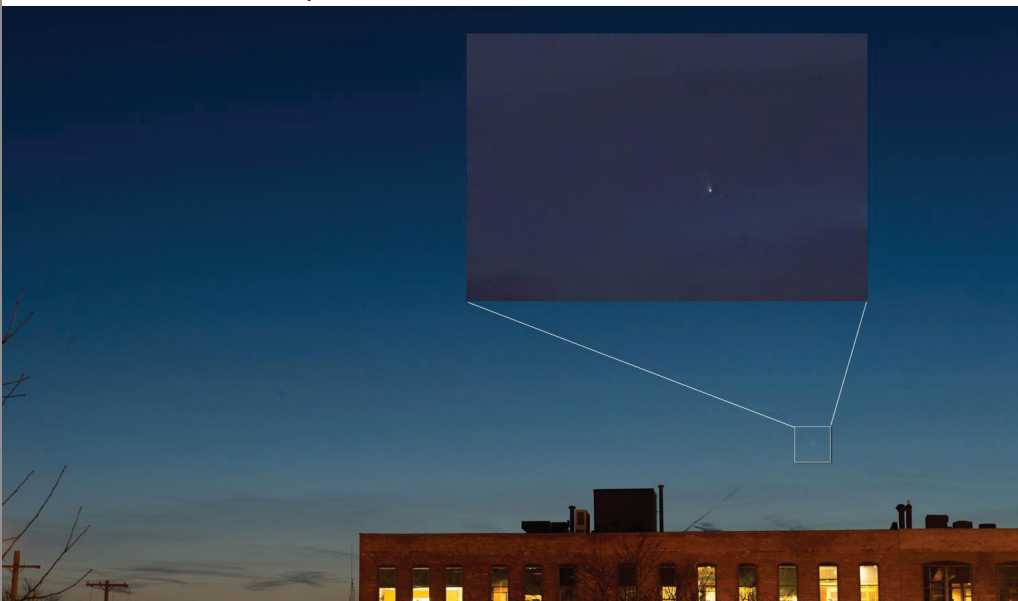




Mike Radwick took the shot on the left March 13 from a small hill near his home in Canton, Mi. March 22 he joined John Causland, Debbi Smith and Jim Forrester on the golf course in Loch Alpine west of Ann Arbor to obtain the image on the right.

About the session that produced the photo on the left, Mike said: *Since there are so many fantastic photos about, I tried something a little different. I took a lot of photos and assembled them into a 15 second movie. John found the comet around 8:40/8:45 and my first image in the series was taken at 8:48 PM. (Thanks, John!) The last photo was taken at 9:11 PM, just as the comet sank into the trees.*

The photos were taken with my unmodified Canon 30D camera at f/5.6 using ISO 800. I used a zoom lens with a 200mm focal length and 77mm aperture. There are two groups of images. The early ones are 8 second exposures and the later ones 15 seconds (you'll notice the stars become stretch out at the longer exposure). The movie will soon be posted on the club web site.



Assorted Lowbrows, guests and passersby hunted down the comet March 14 from Ashley Street in downtown Ann Arbor. One of Dipankar Maitra's astronomy students, Willy Wangsa captured this image of C2011/L4 Pan-STARRS in the deepening twilight.

“It’s What You Crave”

It’s Back: The 8’ f/7 Cave Dobsonian

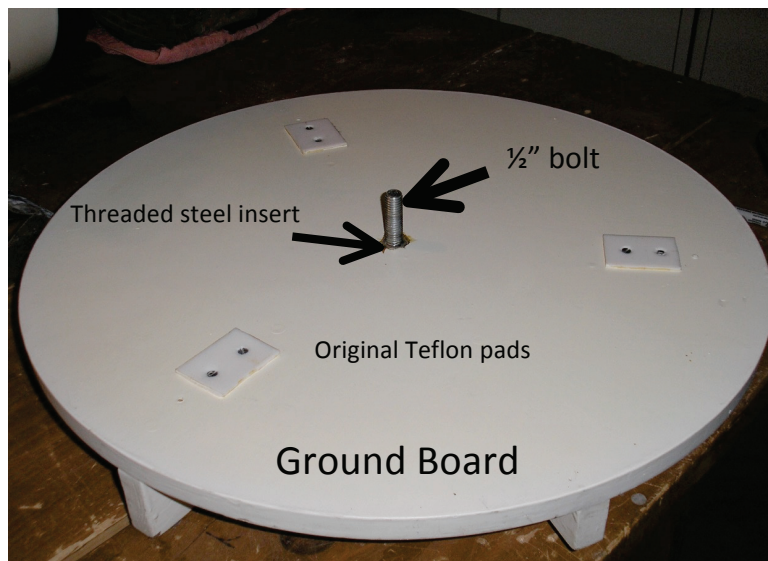
By Jack Brisbin

I don’t remember who actually donated the 8”Cave f/7 dobsonian but it has been stationed at the Peach Mountain Observatory for many years. Basically, it is an 8” f/7 optical tube assembly made by Cave Optical that was re-mounted on a homemade dobsonian mount. The telescope worked fine for many years. But over the course of time the optics needed cleaning and the dobsonian style mount needed some work. The bolt attaching the ground board to the bottom of the rocker box, sometimes referred to as the azimuth pivot bolt, created a larger diameter hole in the wood over time and caused the rocker box to wobble. The second problem was the material on the bottom of the rocker box (white material) that rotates on the Teflon pads. It turned yellow and started to break down, creating a rough surface contacting the Teflon pads.

Looking at the ground board picture, a threaded steel insert is fitted in the ground board and glued in place. A ½” bolt with washer is threaded through the insert and tightened and glued. This will take care of the ground board wobble.

Moving to the Rocker Box picture you can see the bottom is covered with ebony star Formica. This will make the azimuth bearing rotate and move smoothly (less friction) on the Teflon pads. The center bolt hole in the rocker box bottom board has a ½” steel sleeve inserted in it. The steel sleeve in combination with the ½” bolt will eliminate the wobble between the two surfaces. The nut used, to bolt the two surfaces together, is the locking type with a plastic insert in the thread.

The next cleaning project is the optical tube assembly. The primary and secondary mirrors were removed and cleaned. The inside of the tube was wiped to get rid of

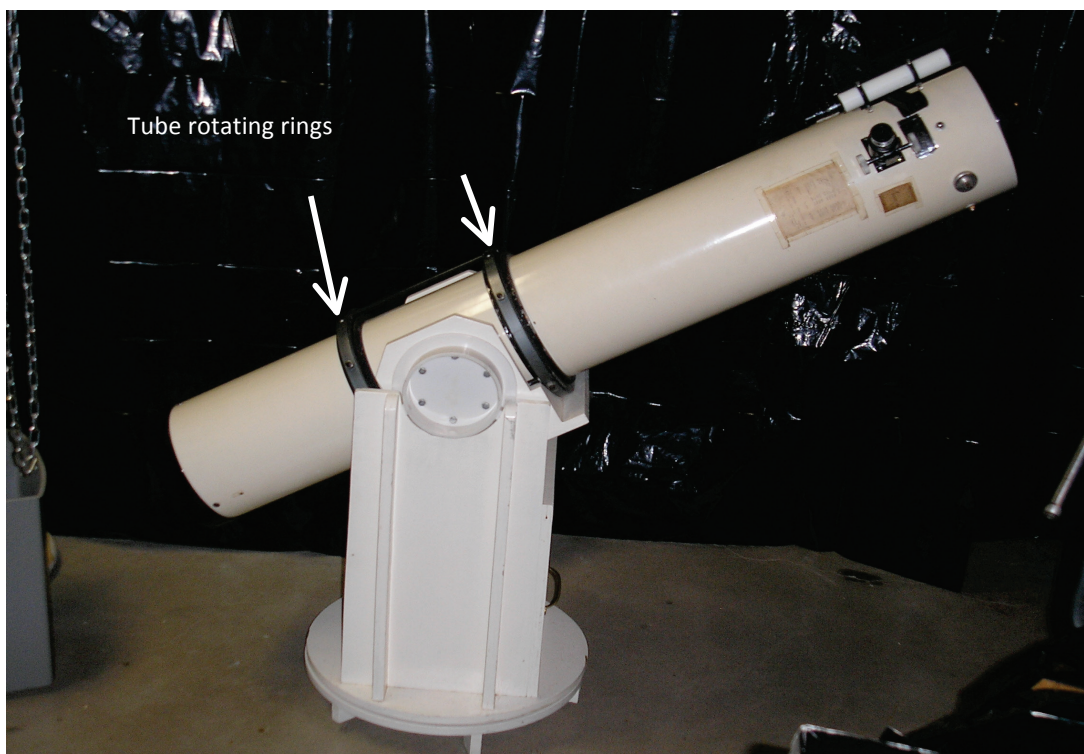


the dust and any critters trying to hide in the tube. There are some small spots on the mirror that are in the coating, but the mirror looks good. As time goes, so does the mirror coating. At a future date in time the primary and secondary mirror will have to be re-coated. There is a small chip on the edge of the finder scope lens but this will not interfere with the finder scope image. The telrad finder has new batteries, so this scope is good to go!! In November of 2012 we did take the scope to peach mountain for some observing and made sure the optics where aligned.

But wait there's more! The scope has a nice observing feature. The steel rings fixed to the cradle allow the tube to be rotated so the eyepiece can point downward for a more comfortable observing position.

Don't Delay Dial Today; G.OTO.PEACH.MT. The 8" f/7 cave dobsonian is housed in the Peach Mountain Observatory with the 24" McMath Telescope. The next two open house observing sessions are April 6th and 13th .

USE THIS TELESCOPE ! (imagine red flashing letters)



Doug Nell's:

THE *Top Ten List*

No I'm not talking about a late night TV talk show comedy bit or even my opinion of the top 10 objects in the sky. The top 10 I'm referring to is the top 10 degrees of declination in the sky.

Why should we want to pay attention to this part of the sky? Most observers will look in this direction at the start of their observing session in order to locate Polaris so as to find true north and/or align their mount. A quick scan of the 13 objects in this article shows no Messier or Hershel 400 objects. Only 1 of the objects appears on the newer Caldwell list. But for those of us at mid-northern latitudes this part of the sky is always up. No need to wait a few months or even a year for them to return to view. Here in southern Michigan the lowest any of these objects gets above the northern horizon is 32 degrees. I'll start from the north and work my way south. I used 5 and a 17.5 inch telescopes at Lake Hudson state park in Lenawee Co. southwest of Ann Arbor and at the much darker skies of Cherry Springs state park in north central Pennsylvania.

The closest of any "bright" non-stellar objects to the north celestial pole is NGC 3172, also known as "Polarisima". It forms an equilateral triangle with Polaris and λ Umi, Polaris being at the apex. This galaxy is small. I mean real small. I've been able to see it at Lake Hudson with the 17.5" and believe that it could be seen with a smaller scope. It appeared as a small featureless slightly elongated blob.

The Deep Sky Field Guide to the Uranometria 2000 declares that NGC 1544 in Cepheus is a little longer than NGC 3172 but at first glance I didn't think so. Yet I thought it was easier to detect. How do these two small galaxies compare to each other for you?

The only open cluster on my list is next and it's also the only object entered on another more famous listing. NGC 188 occupies the first slot in Sir Patrick Moore's Caldwell collection. Most of its stars are faint and require an 8" or larger scope to resolve. From a dark site my 5" f/5 achromat at 22x surprisingly revealed it as an unresolved glow among a sparse star field not difficult to detect. It seemed slightly triangular in my 17.5" at 67x. Doubling the power doubled the number of stars resolved. This would be a good cluster to see how many stars can be seen with different apertures at different powers. NGC 188 is note-worthy in that it is one of the oldest open clusters that humans have been able to find.

The galaxy pair of NGC 2300 and NGC 2276 in my opinion is the highlight of my northern exploration. Both are easily in the same field of view at 250x in my 17.5" with a 68 degree apparent field of view eyepiece. The difference between these two galaxies is what made them so enjoyable. NGC 2300 is a high surface brightness elliptical and 2276 a face on low surface brightness spiral with a stellar core. Even at 500x 2276's core was a pinpoint. Its outer areas seemed mottled. 2300's core was broader to me at all powers. An excellent image and description of the pair can be found in Ken Hewitt-White's "Going Deep" column in the Nov. 2012 Sky & Telescope. It was fun to read the differences in his observations vs. mine. I'll hazard a guess that the main reason this pair is not more often talked about is the low surface brightness of 2276. In any case this pair has made my list of things to look at every year.

Brighter and a little larger than Polarisima or NGC 1544, NGC 2268 is a galaxy in Camelopardalis whose slight E-W elongation and brighter core were quickly scanned up at 125x in the 17.5".

Another close pair of galaxies, NGC 6251 and NGC 6252 in Ursa Minor, were immediately seen at 125x with direct vision in the 17.5". They are only about 3' apart with 6251 the southern and larger of the 2. Both had about the same overall surface brightness at 250x though 6251's core was brighter.

The first of 2 planetary nebulas contained in the search, IC 3568 was easy at 125x once I had it the field despite its tiny 6 arcsec size. I initially thought that it might be a "blinking" type planetary where when you stare at the central star the nebula disappears until you use averted vision. Pushing the power to 250 and 500 revealed its true nature. It has a central disk surrounded by a tenuous outer fringe. Almost all planetaries that I observe benefit from the use of a narrow band nebular filter. IC 3568 gained little from using one.

While the previous small galaxies mentioned above would show only a slight elongation the elongation of NGC 1184 is much more apparent. It looked like an edge-on with a central bulge at 250x.

The visibility of an object can depend much on the neighborhood it's in. Such is the case of the planetary IC 1454. There is a star on its edge that at 125x made it very difficult to pull in without using averted vision. When the power was increased to 250 and 500 it became much easier to see. Displaying a ½ min. diameter round disk it gave the impression of a darker center. Using the narrow band filter brought out a ring structure.

I spent over 25 minutes trying to find NGC 3057, a low surface brightness galaxy in Draco without success. I swore up and down that I had to be looking right at it. I was going to give up when I decided to try a method I have not seen mentioned much lately in the literature. Probably do to the proliferation of go-to systems. My Uranometria 2000 chart showed 2 easily recognizable stars just 5 minutes in R.A. to the west of where the galaxy was to be. I centered the view on these stars and sure enough, 5 minutes later a very faint even glow less than 2 arc-minutes wide floated across the field of view. I cursed myself again for not having seen it before. I silently put a very small and humble feather in my own cap for attaining this galaxy listed in the Field Guide for the Uranometria 2000 as having almost a 15th magnitude surface brightness. This is the lowest surface brightness object on the list.

There was no such difficulty in finding NGC 2336 in Camelopardalis. It is 1 deg. south of the center of a conspicuous trapezoid of 4 stars. At about 4 arc-min long and half as much wide, it was "plain as day" at 125x in the 17.5". A small brighter core was visible.

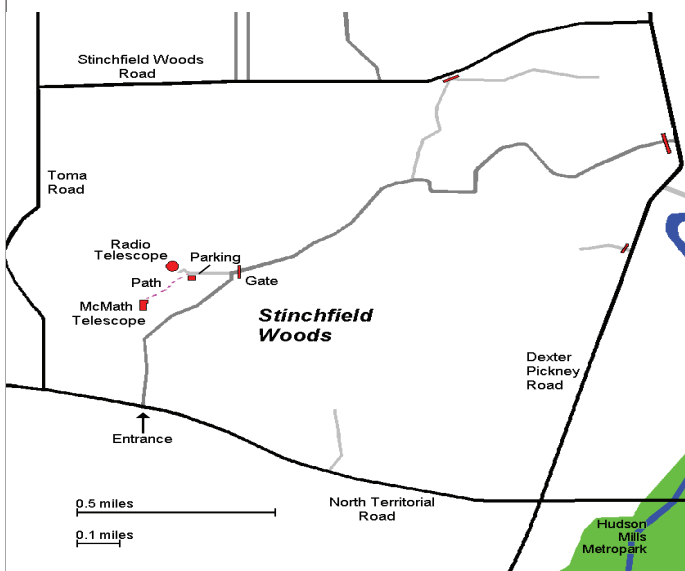
The nice thing about the Top Ten List is that it's not restricted to 10 items. There are several more non-stellar objects that one could try to find and double star enthusiasts have probably already noted that they could add some entries of their own. Another interesting fact is that with the precession of the Earth's pole, over the years some objects will leave the list and others will join it.

Object	Const	RA	Dec	Type	Mag	Size (arcmin)
NGC3172	Umi	11h 43.8m	89d 05m	gal	13.8	1.1x.8
NGC1544	Cep	05h 03m	86d 13m	gal	13.2	1.6x1
NGC188	Cep	00h 44m	85d 20m	oc	8	13
NGC2276	Cep	7h 27m	85d 45m	gal	11.4	2.6x2.3
NGC2300	Cep	7h 32m	85d 43m	gal	11	3.2x2.8
NGC2268	Cam	7h 14m	84d 23m	gal	11.5	3.4x2.3
NGC6252	Umi	16h 32.5m	82d 36m	gal	14.2	.7x.4
NGC6251	Umi	16h 32.6m	82d 33m	gal	12.6	1.8x1.5
IC 3568	Cam	12h 32.9m	82d 33m	pln	10.6	0.1
NGC1184	Cep	3h 16.6m	80d 48m	gal	12.4	2.6x.7
IC1454	Cep	22h 42.6m	80d 27m	pln	13.8	0.5
NGC3057	Dra	10h 05.6m	80d 17m	gal	13	2.6x2.1
NGC2336	Cam	7h 27.1m	80d 11m	gal	10.4	6.4x3.3

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 Astronomers

P.O. 131446

Ann Arbor, MI 48113

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

Sky & Telescope - \$32.95 / year \$62.95/2 years

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

For more information contact the club Treasurer at:

lowbrowdoug@gmail.com

Newsletter Contributions

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

Call or Email the Newsletter Editor: **Jim Forrester (734) 663-1638** or jim_forrester@hotmail.com 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

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	Jason Maguran	
	Jack Brisbin	
	Belinda Lee	(313)600-9210
	Doug Scobel	(734)277-7908
Treasurer:	Mike Radwick	
Observatory Director:	Jim Forrester	(734) 663-1638
Newsletter Editor:		
Key-holders:	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/>

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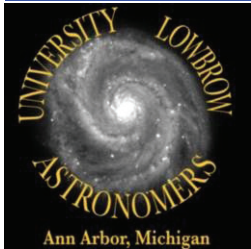


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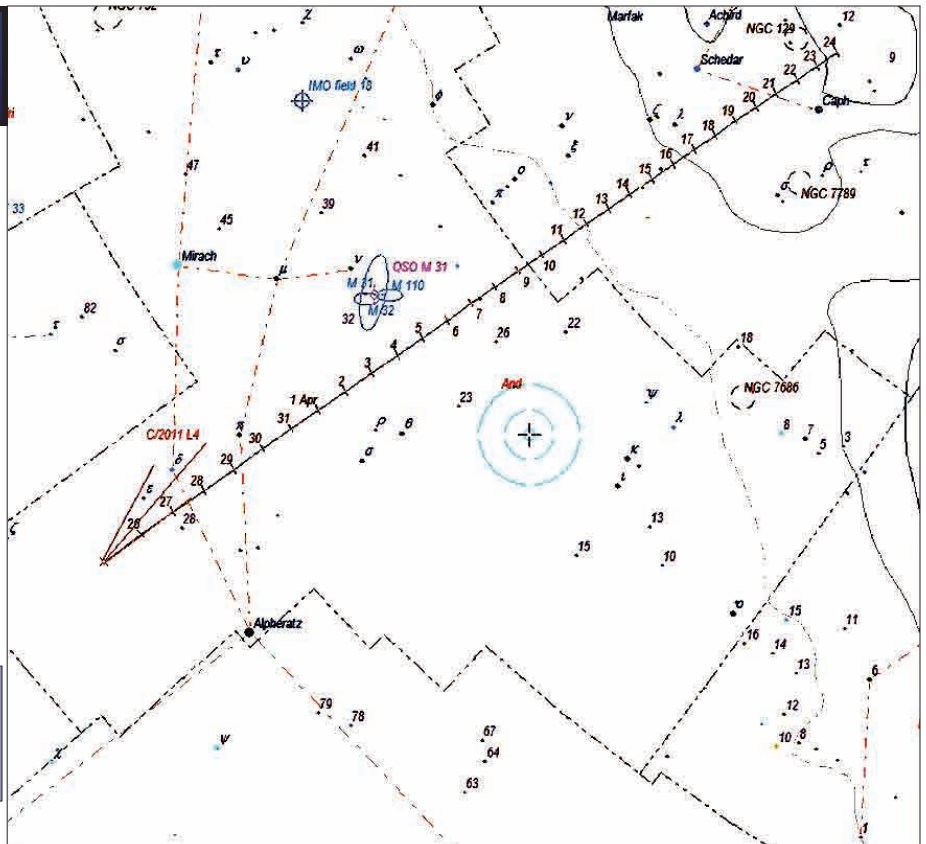
lowbrowdoug@gmail.com

Reflections & Refractions

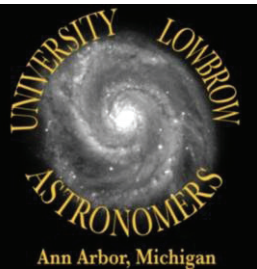


Website

www.umich.edu/~lowbrows/



Mark Deprest sent this chart of C/2011 L4 PanStarrs' path as it heads into Cassiopeia later this month.



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