



# REFLECTIONS AND

# REFRACTIONS

OF THE UNIVERSITY LOWBROW ASTRONOMERS

July 2005

## Upcoming Events July 2005

- **Saturday, July 2, 2005.** Open House at Peach Mountain. May be cancelled if cloudy.
- **Saturday, July 9, 2005.** Open House at Peach Mountain. Gate opens at 8:30 PM. May be cancelled if cloudy.
- **Friday, July 15, 2005.** Monthly Club Meeting 7:30 PM. John Kirchhoff of Rider's Hobby Shop. "Goodies Show".
- **Saturday, August 6, 2005.** Open House at Peach Mountain. Steady skies expected.
- **Saturday, August 13, 2005.** Open House at Peach Mountain. May be cloudy.
- **Friday, August 19, 2005.** Monthly Club Meeting. Topic to be announced.
- **Saturday, September 3, 2005.** Open House at Peach Mountain. May be cancelled if it's cloudy. (Starting at Sunset).
- **Fri & Sat, Sept 9-10, 2005.** Astronomy on the Beach. 5 PM-Midnite, Kensington Metro Park near Brighton.
- **Friday, September 16, 2005.** Monthly Club Meeting 7:30 Ken Burton -Venus Transit.
- **Friday, October 21, 2005.** Monthly Club Meeting 7:30 P.M. Nathan Murphy.

## Riders to the Lowbrows!

by Tom Ryan  
page 2

## First Run with an ST7

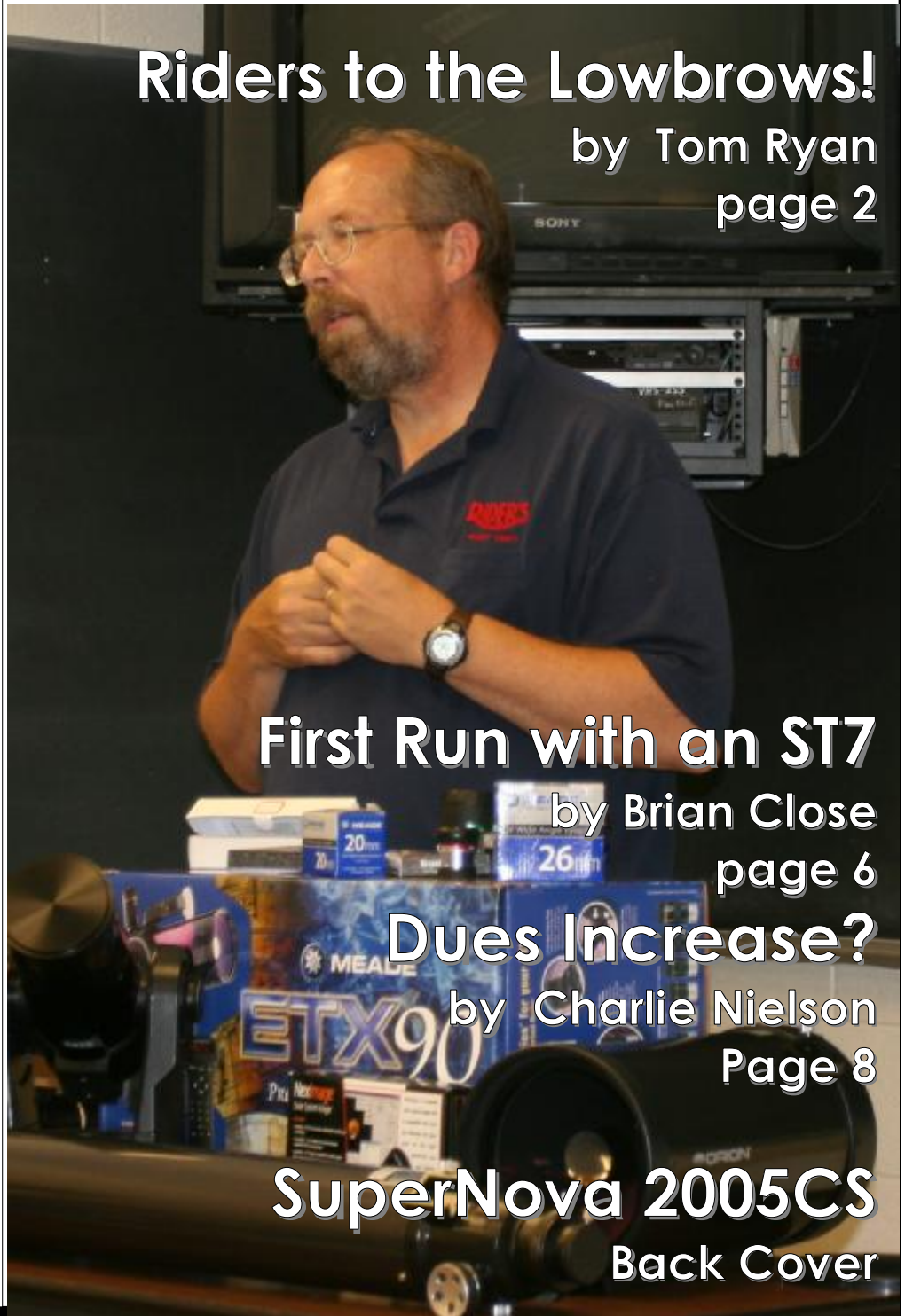
by Brian Close  
page 6

## Dues Increase?

by Charlie Nielson  
Page 8

## SuperNova 2005CS

Back Cover



# Riders to the Lowbrows!

(Or “Only 162 shopping days ‘til Christmas”)  
*by Tom Ryan*



On the 15th of July, at the regular club meeting, John Kirchhoff, of the Livonia Rider’s Hobby Shop, talked to the attending Lowbrows about some of the latest products that are available to amateur astronomers. John gives this talk every year, and a large number of Lowbrows look forward to it because they can closely examine the latest offerings from various manufacturers. They also get the benefit of John’s personal opinion of the products, and since John is also a dedicated observer and often uses the products himself, his opinion is worth listening to.

John brought a wide range of products, discussed their fine points, and passed many of them around the room for closer examination. If that weren’t enough, he followed up his demonstration with a talk about his personal experiences in high resolution planetary imaging. This last part provided the Lowbrows with some amazing images of the moon and planets, all taken from John’s backyard, using techniques which he is constantly improving upon. His pictures were so impressive that we asked him, and he agreed, to give the Lowbrows a more detailed account of his methods in the near future. We’re looking forward to that article, but for those who missed the meeting, what follows here are some of the highlights of his product demonstrations.

John’s telescopes were represented by an Orion 150mm Maksutov optical tube assembly and a Celestron 80mm ED refractor. John says the optics in the Celestron are apparently the same optics as are in the Orion 80mm ED refractor, both of them being manufactured by the Chinese company Synta. The Celestron had a price tag of \$399.99, and the Maksutov, \$649.00.



Maksutovs and small refractors have the advantage of being extremely portable, and have usually proven to have good quality optics. (See “A Tale of Two Telescopes” in *Reflections*, October, 2004). These scopes are expected to continue that tradition. John said that the Orion 5” Maksutov was very popular, but Orion had received some requests for a scope with more aperture; hence the 150mm.

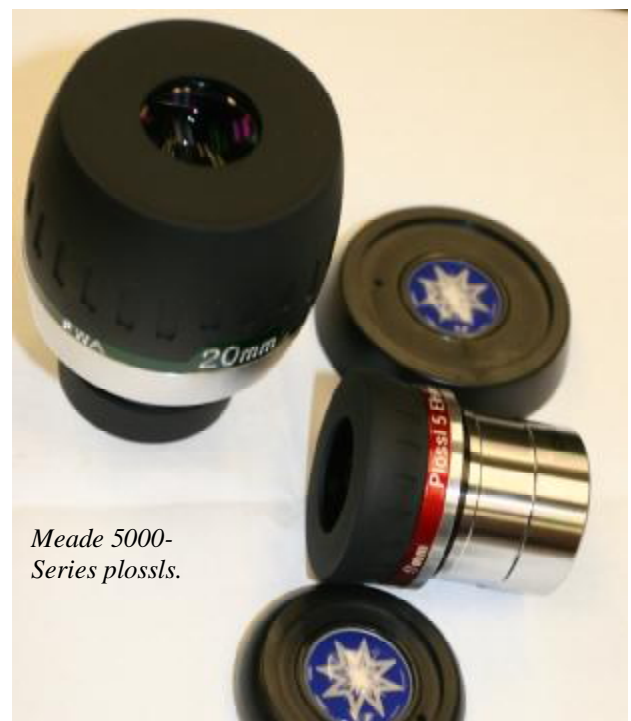
John also brought a new ETX scope which featured Meade’s new LNT module, or Level North Technology. This is a feature of the ETX Premier series, and the technology is pretty exciting. This ETX retails for \$749.00.



Eyepieces seem to be a product that everyone likes. Perhaps it’s because the price of an eyepiece, unlike the price of an entire scope, falls into that range where a person can buy it as an impulse purchase, or as a gift to themselves, without feeling guilty about stealing the food from one’s children’s mouths, or the shoes from their feet. (Eyepieces can

just be fun. The author recently got a chance to look through a multi-element eyepiece from China that had anti-reflection coatings on only the top and bottom surfaces, and the memory of the myriad internal reflections has often warmed his heart; confirming as it does his opinion of the *caveat emptor* aspect of Chinese marketing. And while the author may find the selling of inferior goods amusing - He recently laughed and laughed, all the way to the ER, after breaking his ankle - that is exactly what John is trying to prevent by previewing his products in front of a group.)

For whatever the reason, the variety of eyepieces is large and is growing larger. John brought three lines of eyepieces with him.



*Meade 5000-Series plossls.*



*Meade QX Wide Angle eyepieces.*



*Lowbrows in rapt attention.*

The first set were from Meade's 5000-Series of plossl eyepieces. John brought a 9mm (eyepiece, that is. The crowd was friendly.) for \$89.00, and a 20mm for \$200.00. These eyepieces have five or six elements in them, and have a 60 degree apparent field of view.

The second set of eyepieces, pictured above, are from Meade's QX series of wide angle eyepieces. (The source of the name QX is a mystery, but it is rumored that Meade didn't want to confuse any of their products with the QNX real time operating system, which is currently trying to quietly take over the world). The 26mm and the 20mm pictured above sell for \$89 and \$79, respectively, are multicoated, and have five elements and a 70 degree apparent field of view.

Not pictured is a third series of wide angle eyepieces by Orion. They are the "Stratus" series, and are interesting because they cost \$119.00 for any focal length. John said that they are similar to Vixen's eyepieces. You can get more information about these from Mark Rotenberg at Rider's.

John also had a couple of Oxygen III filters; a 2" diameter for \$139, and an 1 1/4" diameter fileter for \$89. These are brand new, are at introductory prices, and cost much less than equivalent OIII filters available elsewhere. John did caution his audience that these filters work best on telescopes of 8" aperture and greater, because of the large amount of light they remove from the image. It should be noted that these filters also remove sky fog, since very few streetlights are illuminated by triply ionized oxygen, and as a result can often make a nebula visible that wouldn't be otherwise.

While on the topic of filters, John also brought along a small Solar Scope with a Coronado filter and a Televue 10mm eyepiece. I believe he said the price of the ensemble was \$4500, but I may be wrong. John is hoping to pick up the high-end Coronado line of solar filters, and if he can, it will be a remarkable addition to Rider's offerings. The Sun takes on completely new dimensions when viewed through one of these filters, coupled to a really good refractor of, say, 100mm aperture. The filter that the author used could shift its pass-band to view dopplered material on the sun.



*Mark Rotenberg, left, and David Tucker, holding a copy of the Messier book. Mark works at the Rider's store on Carpenter Road, and David Tucker has contributed many astro-photos of his own to Reflections (See the Back Cover of this issue for some of his work).*



John holds up the Messier book for the crowd. Next to him is a small Solar Scope with a Coronado filter.



Lowbrows discuss bank robbery as a means of raising cash. Doug Warshow says its where the money is. Doug Nelle is skeptical.



Kurt and Kathy Hillig compare impressions of the "Goodies Show" with John Causeland.

John brought two books with him, which he highly recommends to observers. The first was the Messier book "The Next Step - Finding and Viewing Messier's Objects" by Ken Graun. John is holding a copy of it in the above picture, but it somehow found its way into David Tucker's hands before the night was over.



The second book was what John calls "the Moon book". It is actually "The Atlas of the Moon", by Antonin Rukler, and it is recently back in print by Sky and Telescope Publishing Co. John says it has outstanding moon charts. John would be in a position to know this. During his talk on high resolution astrophotography of the moon and planets from your backyard, John showed the Lowbrows photos he had taken with detail of 1/2 mile at 240,000 miles. (That's better than a half arc second, which is the theoretical resolution of a 13" telescope).

Other items that John brought included a dew heater, a Meade Deep Sky Imager CCD camera (Mark Rotenberg says these are very popular, and when I visited his store recently, someone came in and bought one off the shelf), and a green Laser Pointer for \$99. These green laser pointers are remarkable, because they use an IR laser diode to pump another diode, which emits at 1064nm, and is frequency doubled to 532nm, all on an optical bench inside a pen. So when you are taking out low flying aircraft with one, don't drop it.

All in all, everyone had a great time at the "Goodies Show", and we are looking forward to John's show next year. ●



Charlie Nielson and Doug Scobel try to decide if this eyepiece has their names on it.

# First Run with an ST7

*By Brian Close, T.N.*



I recently acquired a used ST7 for \$550 and an Astrophysics AP800 mount for \$2500. Both good deals.

The AP800 is rock solid and more than enough to carry both my 5" f/4.5 RFT and 6" f/6.5 telescopes at the same time. Both scopes have good mirrors completed at the Adler Optical Shop in Chicago.

Right now I've just put the 5" RFT on it and started imaging. Here are some of my first attempts. These shots were from my backyard in Bozeman, Montana. While you can see the Milky Way in Bozeman, I have a security light as a neighbor which reflects off of the trees in my yard. My one difficulty has not been tracking or balance but focusing! My current focuser, a cheapo helical focuser, really doesn't have the precision to get the stars below the 2.0 Full-Width-Half-Max that they should be. I'm upgrading to a Feathertouch if Tom ever gets the bases he promised me done.

The images are generally 30 minutes total, made of fifteen 120-second stacked exposures, except for the heart of M31, which is 30 minutes of thirty 60-seconds stacked. Acquisition was with MaxIm DL, with calibration darks but no flats (will try t-shirt flats next). After stacking, calibration, and light pollution gradient adjusting, I'm using old Photoshop 5.0 for processing which is more intuitive, if less scientific,

than MaxIM . (See Ron Wodaski's "The New CCD"; his website is excellent too: [www.newastro.com](http://www.newastro.com)). MaxIm 4.0 does have some nice features, such as correcting for light pollution gradients, but I'm not prepared to shell out \$500 bucks after my demo time runs out. SBIG's CCD Soft is available to SBIG camera users (with a valid SBIG serial number) for \$99 and has similar features. Otherwise it's \$349.

Bottom line, even with an old ST7 without anti-blooming you can have some



fun with imaging. Mine cost me \$550 and I'll keep it as a guider when I upgrade to a more expensive camera.. I've seen ST7Es on Astromart for around \$800. My small scope helps, as it really puts no burden on the mount and I can still do deep sky shots with it. My set-up is easy to use and I'll get a couple of years of play out of it before I get bored again and trade up to something else. (Or 10 years if I wait for Tom to finish my 12" f/6 project!) ●



*Brian, the guy in the center and a true Telescope Nut if ever there was one (and tax attorney), can be reached at [taxatty@imt.net](mailto:taxatty@imt.net). He is happy to answer questions, when he's not swindling widows or kicking small dogs.*

# SHOULD THE LOWBROWS INCREASE DUES?

*By*

*Charlie Nielson, Club President*

Not many of us really wish to see things increase in cost and prices go up. But at least we are not talking about taxes or gasoline here. It appears that for the last several years our amount in the Treasury has slowly been decreasing on average. Although this average has fluctuated based on occasional telescope expenses, the size of our membership, and other factors, time and inflation slowly take their toll.

It seems that none of us can remember our club ever changing the amount for dues. We are looking back perhaps 20 years. This may be the time to seriously consider doing so. We have had some discussion on this subject at monthly and officer meetings, but have not arrived at a decision. At the last officer's meeting it was decided that I should write this article, with the suggestion that we increase dues by 5 dollars. This would increase the regular dues to 25 dollars per year. Since the student/senior rate is presently 12 dollars that would increase to an odd amount of 17 dollars; therefore I suggest the student/senior rate increase to 15 dollars. This amount makes it much easier for our Treasurer at the meetings.

We will bring this subject up for discussion at the next monthly meetings, and ask for a vote soon thereafter. In the meantime we are looking for strong opinions at the edges. Are you strongly in favor or against? Do you think this is in line with other clubs? Are these fair amounts?

We will announce at which upcoming meeting that the vote will be taken. I expect it will be early fall. Thanks for your consideration. 6/24/05 •

## Read This Now!

As agreed to at the April meeting, in order to save money and effort in mailing the newsletter, **the default means of receiving the newsletter will be by downloading it from the member web site, beginning with the August issue. The July issue is the last issue that will be mailed to you, if you don't notify Kathy in writing.** You must know the (recently changed) user ID and Password to access future issues on the Web. Our Webmaster, Dave Snyder, will continue to send notices when the latest newsletter is posted to the web site. Of course, this means that members must inform the Webmaster whenever their e-mail addresses change or you will not get these notices.

**If you wish to continue receiving a hard copy in the mail, after this July issue, you must notify Kathy Hillig before the August issue is published by returning this form or e-mailing her with the same information.**

I wish to continue receiving a hard copy of the Lowbrow Newsletter by mail.

My current mailing address is:

Name .....

Address .....

City, State, Zip .....

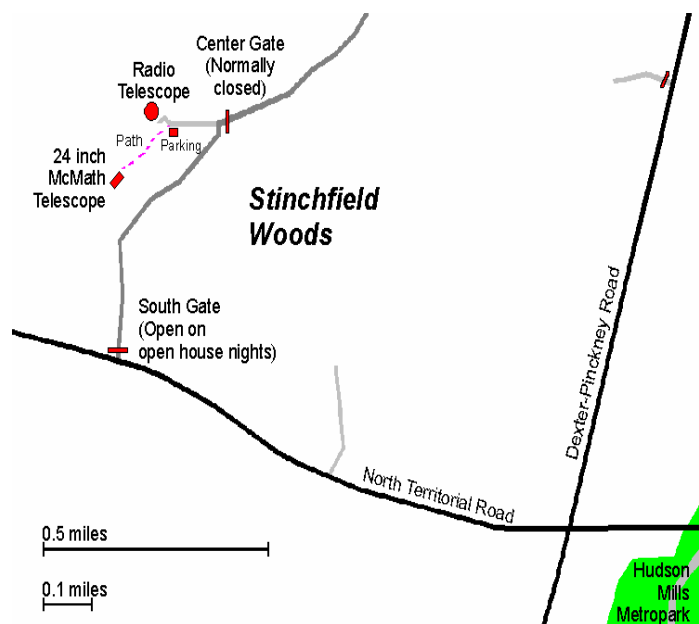
Send the form to: Kathy Hillig, 7654 W. Ellsworth Rd., Ann Arbor, MI 48103

or e-mail to: hilligk@hotmail.com. •



## Places and Times

Dennison Hall, also known as The University of Michigan's Physics and Astronomy building, is the site of the monthly meeting of the University Lowbrow Astronomers. It is found in Ann Arbor on Church Street about one block north of South University Avenue. The meeting is held in room 130. Monthly meetings of the Lowbrows are held on the 3rd Friday of each month at 7:30 PM. During the summer months, and when weather permits, a club observing session at Peach Mountain 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 inch telescope which is maintained by the Lowbrows. The observatory is located northwest of Dexter. The entrance is on North Territorial Road, 1.1 miles west of Dexter-Pinckney Road. A small maize-and-blue sign marks the gate. Follow the gravel road one mile to a parking area near the radio telescopes. Walk along the path between the two fenced in areas (about 300 feet) to reach the McMath telescope building.

## Public Star Parties

Public Open House/Star Parties are held on the Saturday before and after each new Moon at the Peach Mountain Observatory. Star Parties are canceled if the sky is cloudy at sunset or the temperature is below 10 degrees F. Call 4332-9132 for a recorded message on the afternoon of a scheduled Star Party to check on the status. Many members bring their telescopes and visitors are welcome to do likewise. Peach Mountain is home to millions of hungry mosquitoes - bring insect repellent, and it does get cold at night so dress warmly!

Amateur Telescope Making Group meets monthly, with the location rotating among member's houses. See the calendar on the front cover page for the time and location of next meeting.

## Membership

Membership dues in the University Lowbrow Astronomers are \$20 per year for individuals or families, and \$12 per year for students and seniors (age 55/+). This entitles you to the monthly REFLECTIONS newsletter and the use of the 24" McMath telescope (after some training). Dues can be paid at the monthly meeting or by mail to this address:

Kathy Hillig  
7654 W. Ellsworth Road  
Ann Arbor, MI 48103

## Magazines

Members of the University Lowbrow Astronomers can get a discount on these magazine subscriptions:  
Sky and Telescope: \$32.95 / year  
Astronomy: \$29.00 / year

For more information contact the club Treasurer. Members renewing subscriptions are reminded to send your renewal notice along with your check when applying through the club Treasurer. Make the check payable to "University Lowbrow Astronomers".

## Newsletter Contributions

Members and (non-members) are encouraged to write about any astronomy related topic of interest. Call or Email to Newsletter Editor at: John Ryan (734) 662-4188 [allegheny@mac.com](mailto:allegheny@mac.com) to discuss length and format. Announcements and articles are due by the first Friday of each month.

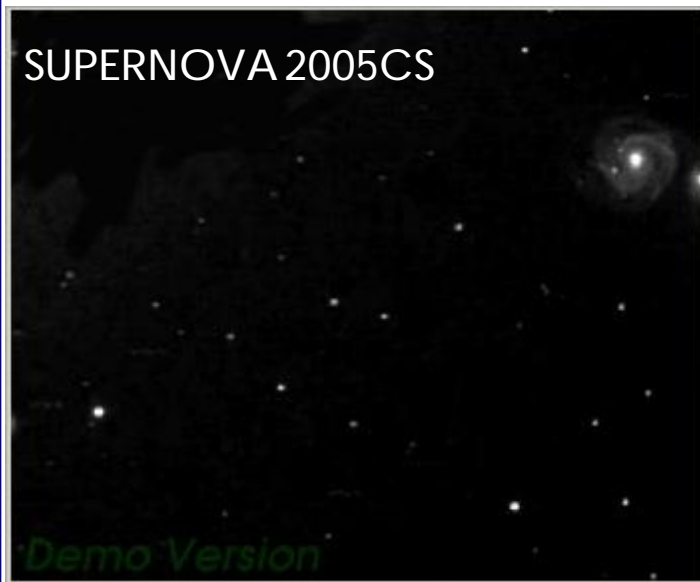
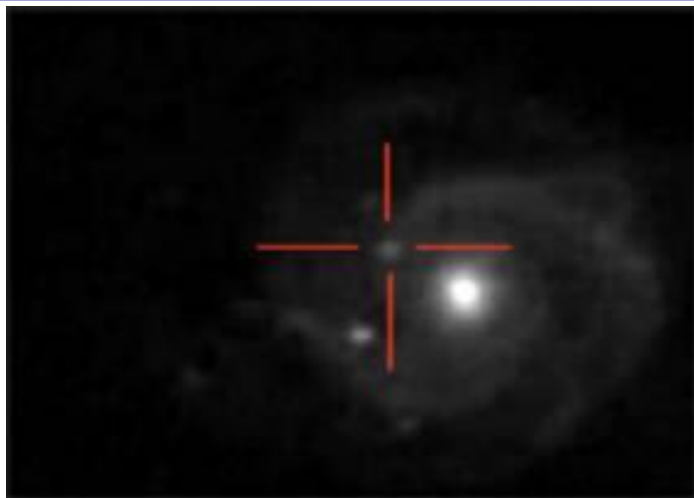
## Telephone Numbers

President:	Charlie Nielsen	(734) 747-6585
Vice Presidents:	Jim Forrester	(734) 663-1638
	Bernard Friberg	(734) 761-1875
	Bob Grusczyński	(734) 461-1257
	Paul Walkowski	(734) 662-0145
Treasurer:	Kathy Hillig	(734) 663-8699
Observatory Director:	D. C. Moons	(586) 254-9439
Newsletter Editor:	John Ryan	(734) 662-4188
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Lowbrow's Home Page  
<http://www.umich.edu/~lowbrows/>

This is an image of M51 (the “Whirlpool” galaxy) taken from The UM Astro club’s Peach Mountain observing site. (These photos resemble the visual image as seen through the Club’s 24” telescope.-*ed.*) M51 is, of course, the fuzzy swirly thing on the far right in the picture below. It is a spinning disk of about 160 billion stars at a distance of about 37 million light years and has a diameter of about 100,000 light years.

The smaller blob on the right edge of the picture is its smaller companion galaxy NGC 5195. The green writing shows that I processed the image using a free demo version of Astroart.



The bright white dot to the upper left of the galactic core is the recently discovered **SUPERNOVA 2005CS**. It is currently millions of times brighter than any other star in M51, and is expected to remain this way for several months after which it will presumably turn into a neutron star or black hole or other such anomaly (The other bright spot is probably just a foreground star in our own galaxy).

Image was built from about six 60 second images taken through an 80mm f/5 refractor, using an Atik 2HS modified webcam, stacked with K3CCD. Amazing what you can do with a tiny telescope and a long exposure. Thank to Yasu and other Lowbrows who helped me find M51. -David Tucker ●



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ASTRONOMERS

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