

REFLECTIONS / REFRACTIONS

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University Lowbrow
Astronomers

February 2011

Volume 35 Issue 2

Lowbrow Schedule of Events

Compiled by Charlie Nielsen, Belinda Lee & Mark S Deprest

- **Friday, February 11, 2011 – Special Session:** 6 to 9 PM, observing at the U of M Botanical Gardens. Theme is colors of stars and nebula
- **Friday, February 18, 2011 – ULA Meeting:** Mark Deprest (University Lowbrow Astronomers): “No Charge Astronomy, Part 2.”
- **Saturday, February 19, 2011 – SMP:** (10:30AM, Room 170 Dennison, U-M Central Campus). Saturday Morning Physics. Professor Nilton O. Renno (U-M Atmospheric, Oceanic & Space Sciences): “The Discovery of Liquid Saline Water on Mars.”
- **Monday, February 28 – Sunday, March 6, 2011 – Winter Star Party** held at West Summerland Key, FL – Lowbrows Attending- Robert Wade for more info: <http://www.scas.org/wsp.html>
- **Thursday March 3, 2011 – Special Session:** 2 to 4 PM, Astronomy presentation at Bach Elementary School
- **Saturday, March 5, 2011.** *May be cancelled if it's cloudy or too cold.* (Starting at Sunset). [Open House at Peach Mountain](#)
- **Saturday, March 12, 2011 – FAAC Astronomy Expo & Swap:** held in Livonia, MI for more info see the flyer on page 8 of this newsletter.
- **Friday, March 18, 2011 – ULA Meeting:** David Levy (Jarnac Observatory): Skype discussion, My History of Comet Hunting.
- **Saturday, March 26, 2011 – Special Session:** 9 AM to 4 PM, U of M Exhibit Museum, presentation and display about water in our solar system
- **Saturday, March 26, 2011.** *May be cancelled if it's cloudy or too cold.* (Starting at Sunset). [Open House at Peach Mountain](#)
- **Saturday, April 2, 2011.** *May be cancelled if it's cloudy.* (Starting at Sunset). [Open House at Peach Mountain](#)
- **Saturday, April 16 – Sunday, April 17, 2011 – NEAF:** NorthEast Astronomy Forum & Telescope Show at Suffern, NY – Lowbrows Attending – Clayton Kessler for more info: <http://www.rocklandastronomy.com/NEAF/index.html>
- **Friday, April 15, 2011 – ULA Meeting:** Elections and Swap Meet.
- **Friday, April 29 – Sunday, May 1, 2011 – Lowbrow Spring Star Party:** CLEAR II in Atlanta, MI (very dark site) with a cloud-out date listed below – Lowbrows Attending – Mark Deprest, Dipankar Maitra, Brian Ottum, Doug Scobel, Don Fohey, Dave Snyder ... and any other Lowbrows interested.
- **Saturday, April 30, 2011.** *May be cancelled if it's cloudy.* (Starting at Sunset). [Open House at Peach Mountain](#)
- **Saturday, May 7, 2011.** *May be cancelled if it's cloudy.* (Starting at Sunset). [Open House at Peach Mountain](#)
- **Tuesday, May 17, 2011 – Special Session:** 8 to 11 PM, Observing at Camp Hazelwood for Hazel Park Schools

- **Friday, May 20, 2011 – ULA Meeting:** Rudi Lindner (History Department, University of Michigan): “Keep Watching the Skies! The Rise, Flight, and Fancy of Flying Saucers.”
- **Tuesday, May 24, 2011 – Special Session:** 8 to 11 PM, Observing at Camp Hazelwood for Hazel Park Schools
- **Thursday, May 26 – Sunday, May 29, 2011 – CSSP:** Cherry Springs Star Party at Cherry Springs, PA – Lowbrows Possibly Attending – Chris Sarnecki, Clayton Kessler for more info: not available at this time.
- **Friday, May 27 – Monday, May 30, 2011 – Lowbrow Spring Star Party:** CLEAR II (cloud-out) in Atlanta, MI (very dark site) – Lowbrows Attending – Mark Deprest, Dipankar Maitra, Brian Ottum, Doug Scobel, Don Fohey, Dave Snyder ... and any other Lowbrows interested.
- **Saturday, May 28, 2011.** *May be cancelled if it's cloudy.* (Starting at Sunset). [Open House at Peach Mountain](#)
- **Saturday, June 4, 2011.** *May be cancelled if it's cloudy.* (Starting at Sunset). [Open House at Peach Mountain](#)
- **Friday, June 17, 2011 – ULA Meeting:** Ed Ting (Scope Reviews Dot Com): Skype Virtual Meeting: Topic to be announced.
- **Saturday, June 25, 2011.** *May be cancelled if it's cloudy.* (Starting at Sunset). [Open House at Peach Mountain](#)
- **Saturday, July 2, 2011.** *May be cancelled if it's cloudy.* (Starting at Sunset). [Open House at Peach Mountain](#)
- **Thursday, July 14, 2011 – Special Session:** 7 PM to 11 PM or so, Leslie Science and Nature Center, observing for young urban campers
- **Friday, July 15, 2011 – ULA Meeting:** Norbert Vance (Director, Sherzer Observatory, Eastern Michigan University): Tour of the new EMU Planetarium. This meeting will take place in the Science Complex on the campus of Eastern Michigan University.
- **Friday, July 15 – Sunday, July 17, 2011 – MWAIC:** MidWest Astro-Imaging Conference at Elgin, IL – Lowbrows Attending – Clayton Kessler for more info: <http://www.mwaic.com>
- **Saturday, July 30, 2011.** *May be cancelled if it's cloudy.* (Starting at Sunset). [Open House at Peach Mountain](#)
- **Thursday, August 4, 2011 – Special Session:** 7 PM to 11 PM or so, Leslie Science and Nature Center, observing for young urban campers
- **Saturday, August 6, 2011.** *May be cancelled if it's cloudy.* (Starting at Sunset). [Open House at Peach Mountain](#)
- **Friday, August 19, 2011 – ULA Meeting:** Tom Trusock topic to be announced
- **Friday, August 26 – Sunday, August 28, 2011 – BFSP:** Black Forest Star Party at Cherry Springs, PA – Lowbrows Possibly Attending – Mark Deprest, Robert Wade, Nathan Murphy, Brian Ottum, Chris Sarnecki, Doug Scobel, Don Fohey, Dave Snyder, Clay Kessler for more info: <http://www.bfsp.org/starparty/index.cfm>
- **Friday, August 26 – Sunday, August 28, 2011 – AHSP:** Almost Heaven Star Party at Spruce Knob, WV – Lowbrows Possibly Attending – Mark S Deprest, Brian Ottum, Robert Wade, Clayton Kessler for more info: <http://www.ahsp.org>
- **Saturday, August 27, 2011.** *May be cancelled if it's cloudy.* (Starting at Sunset). [Open House at Peach Mountain](#)
- **Saturday, September 3, 2011.** *May be cancelled if it's cloudy.* (Starting at Sunset). [Open House at Peach Mountain](#)
- **Friday, September 16, 2011 – ULA Meeting:** Bob Berman (Adjunct Professor of Astronomy at Marymount Manhattan College): Skype Virtual Meeting: “Light and Color in the Universe.”

- **Saturday, September 24 – Sunday, October 1, 2011 – OTSP:** Okie-Tex Star Party at Kenton, OK – Lowbrows Possibly Attending – Mark Deprest, Nathan Murphy, Brian Ottum, Chris Sarnecki, Clayton Kessler for more info: <http://www.okie-tex.com/index.php>
- **Saturday, September 24, 2011.** *May be cancelled if it's cloudy.* (Starting at Sunset). [Open House at Peach Mountain](#)
- **Saturday, October 1, 2011.** *May be cancelled if it's cloudy.* (Starting at Sunset). [Open House at Peach Mountain](#)
- **Friday, October 21, 2011 – ULA Meeting:** .Topic to be announced
- **Friday, October 21 – Sunday, October 23, 2011 – Lowbrow Fall Star Party:** CLEAR III in Atlanta, MI (very dark site) with a cloud-out date listed below – Lowbrows Attending – Mark Deprest, Dipankar Maitra, Brian Ottum, Doug Scobel, Don Fohey, Dave Snyder ... and any other Lowbrows interested.
- **Saturday, October 22, 2011.** *May be cancelled if it's cloudy.* (Starting at Sunset). [Open House at Peach Mountain](#)
- **Friday, October 28 – Sunday, October 30, 2011 – Lowbrow Fall Star Party:** CLEAR III (cloud-out) in Atlanta, MI (very dark site) – Lowbrows Attending – Mark Deprest, Dipankar Maitra, Brian Ottum, Doug Scobel, Don Fohey, Dave Snyder ... and any other Lowbrows interested.
- **Saturday, October 29, 2011.** *May be cancelled if it's cloudy.* (Starting at Sunset). [Open House at Peach Mountain](#)
- **Friday, November 18, 2011 – ULA Meeting:** Topic to be announced
- **Saturday, November 19, 2011.** *May be cancelled if it's cloudy or too cold.* (Starting at Sunset). [Open House at Peach Mountain](#)
- **Saturday, November 26, 2011.** *May be cancelled if it's cloudy or too cold.* (Starting at Sunset). [Open House at Peach Mountain](#)
- **Friday, December 16, 2011 – ULA Meeting:** Topic to be announced

IT'S MOVING!

By Brian Ottum

Yes, all astronomical objects (moons, planets, stars, galaxies) are moving. But it is very rare for you to actually see something moving as you stare into the telescope eyepiece. The moons of Jupiter move, and are especially cool to watch as their shadows move across the face of Jupiter or when a moon emerges from the shadow behind Jupiter. Similarly, prominences on the sun blow out from the surface, dissipate and fall back down. Finally, close-approaching comets move against the background stars. However, these three movements are not super exciting to me because they are so slow that you don't really see them move much as you are looking through the telescope. You notice that things are not the same after looking away for a minute or two, then looking back through the telescope.

On the other extreme, all telescope users have seen Earth satellites and space junk zipping through the field of view. It is quite startling. [These have degraded many an image of mine.] These objects are rather close to us and moving fast. So their "angular motion," or rate of motion relative to the background stars, is zippy. Again, I don't find these to be exciting because they move so fast that it's impossible to comfortably track and watch them.

Have you ever been watching the sky and seen something slowly crawl across the field of view, moving relative to the stars? This has randomly happened to me several times. I'm not sure, but I believe these are small pieces of space junk that are in geosynchronous (or near-geosynch) orbit. I'm totally fascinated by them, but know they are nearly impossible to seek out and find. Maybe when the satellite-tracking websites increase their coverage to the thousands (heavens-above.com) we can find these mysterious objects.

The moving objects that I find most exciting to hunt down are near-Earth objects (NEO's). These are asteroids that cruise closely past Earth. If they are projected to come really close, they are called Potentially Hazardous Asteroids (see spaceweather.com). These chunks of rock are moving at 30,000 miles per hour. They range from the size of a small house to miles in diameter. They are zooming past the earth every few days. However, 99% of them are so faint that we cannot see them in our amateur telescopes.

ASTEROID NY40 ENCOUNTER

Back in the summer of 2002, the astronomy press was abuzz about an asteroid that was going to come close to us. The half mile in diameter rock was to pass just a bit further than the moon's distance from Earth! The weather that Saturday looked pretty iffy for Ann Arbor. But I decided that I was not going to miss it. I got my Sky & Telescope finder chart and telescope ready. At about dinner time, it became obvious that I was going to get clouded out. So I checked weather websites and saw that a clear hole was going to be over the center part of lower Michigan. I announced to my family that I was going on a last-minute trip. Amazingly, my wife and 13-year old son and 9-year old daughter said they wanted to come along on this adventure. We piled everything into the van and took off for the Lansing area. I had never been to the Fox Park Observatory SW of Lansing. So despite a printed Mapquest map, I still got a bit lost. We arrived at sunset. I was expecting to see several other amateurs there to witness the big event. But no one ever showed; even to open the big roll-off roof observatory.

I set up the 12.5" Starmaster dob next to the observatory, on the mowed grass. My kids ran around and played games while my wife unhappily slapped mosquitoes. As darkness fell, I used the finder charts to star-hop to the general area. Then I waited for it to get dark enough to see the 9th magnitude field stars and the asteroid itself. More mosquito slapping. I will never forget when I spotted that moving "star," cruising past other stars. I was hooked! It was really cool to project the path and see the stars ahead that might be "hit" by the asteroid. I don't think I removed my eye from the telescope for more than a minute during the 90 minutes we were there. The family took a peek, saw the moving object, and quickly resumed their activities (themselves unmoved by the experience). As clouds rolled in by midnight, we were on our way home. Snores were heard.

FAST FORWARD TO OCTOBER 2010

In 2003, astronomers analyzing the Lowell Observatory LONEOS images found a tiny streak. Using other images and radar, they calculated an orbit. On Friday the 29th, the 1800' diameter rock was going to pass just a million miles from earth! This is just 5 times further away than our moon. Sky and Telescope's website had the information. So I fired up TheSky program, downloaded the orbital data, and plotted the finder charts. On that Friday, I spent about 3 hours printing fancy dotted finder charts, doing research and planning my adventure to see the flyby. (Yes, I was obsessed.)

The weather that day was perfect, so I put out a notice to the Lowbrows...

Lowbrows,

Don't know if you've heard, but something is amazing is happening in the Michigan skies tonight. Asteroid 2003 UV11 is passing very close by. For a 600 meter rock, 1.2million miles is pretty close (about 5 moon-earth lengths).

Almost NOTHING moves while you look at it in the eyepiece. This is the exception. The rock is scooting past at 2.5 arc-seconds/hour, meaning it could cross the full moon in just 12 minutes!

The asteroid is magnitude 12.2, but fading so fast that it is 15.3 tomorrow night. So catch it tonight.

Mag 12.2 is not easy to find. Use your own charting software for a more wide angle view of Pegasus. The calibration star is SAO 107280/HIP 106720, mag 7.25. The asteroid will pass just 20 arc-seconds from this star at 9:16.75pm tonight.

Brian

Bob G. replied and said he'd meet me at Lake Hudson to observe this [exciting] event. Maybe I was the only one excited, because no one else was there. I set up the scope, got out my finder charts, and waited for darkness. Unfortunately, high clouds moved in. Clouds were quite thick to the south where the "winged horse" (Pegasus) and asteroid were to appear.

Undaunted, I star hopped from the bright Pegasus stars that shone through the clouds to the rough location where the magic was to happen. I waited. Then I saw some 11th magnitude stars on the chart very near to where the 12th magnitude asteroid was to be. Nothing. I waited more, but had to switch to another close-up chart because the asteroid was moving so fast. I started to get worried that I would miss it. I just could not find it. Then it occurred to me that the high clouds were obscuring the faintest stars. If I could not see anything fainter than about 12, then I'd never see the asteroid. After about an hour of intense searching, I nearly gave up.

About 10:15pm, the cold was getting to my fingers. But I would not take my eye from the eyepiece. Finally, the clouds dissipated and I could see every single 13th magnitude star on my charts. But I had nearly run out of charts and still not found the asteroid. If I did not find it soon, then I'd never find it because I had no chart.

Eureka! I could plainly see a star continuously moving against the background stars. It was amazing to see it make super close approaches to stars and then crawl past them. Bob was also impressed. We were able to follow the asteroid for 45 minutes. The coolest view was in the 300x eyepiece, so you could actually watch the movement. Eventually, we decided to look at Jupiter and some good deep sky objects. I tried to go back and find the asteroid at midnight, but there was no way since I had no finder charts. But the effort was definitely worth it!

THE FUTURE

I always check spaceweather.com for upcoming asteroid flybys. But nothing is scheduled to be brighter than magnitude 14. If any of you hear of any good flyby's coming up, be sure to let me know. I'll be happy to take fellow observers on my next adventure.

P.S. My son has just finished adding my astropix to my website. He did some cool programming that allows "zooming" up close. Please take a look and give me constructive criticism. <http://www.ottumresearch.com/personal.html>

University Lowbrow Astronomers

Meeting Minutes from Friday, January 21, 2011

January 21, 2011 Officer meeting minutes

Possible March speaker David Levy pending club approval of \$300 honorarium. David's presentation topic is to be decided by the club. In addition, Scott Roberts is donating to the club an eyepiece if we mention Explore Scientific during the presentation.

February presenter Mark Deprest "No Cost Astronomy".

Open meeting speaker slots June and August through December.

Arthur Suits possible June speaker follow up by Belinda.

Hugh Allen possible presentation followed up by Jason.

Liz is heading up the newly founded Ann Arbor IDA Chapter. The chapter will do introduction to club in the newsletter along with regular updates.

Treasury balance \$6945.08

Adjourned 19:03

The meeting was called to order at 19:38 by President Charlie Nielsen.

Charlie introduced Jeff Masters, Ph.D.

Jeff Masters presented "The Future of Severe Weather".

Business section of meeting:

Mark Deprest made a motion to approve a \$300 honorarium for David Levy, our March guest speaker. The motion was seconded by David Snyder. Motion was approved by unanimous "show of hands" vote.

A discussion was held about what format/subject David Levy's presentation would be of most interest to the club. A show of hands indicated that it should be a discussion of David's personal observing style and his history of comet discovery.

Meeting was adjourned at 21:50.

Minutes recorded by Mark Deprest, and typed (with minor editing) by Charlie Nielsen on January 23, 2011.



Astronomy Expo & Swap

8th Annual

Saturday March 12, 2011 9:00 am – 4:00 pm
@ Holy Cross Lutheran Church, Livonia

Days Activities

Astronomy Discovery and Attendee Participation

10:00 am Astronomy 101 – G Hansen

11:00 am Binocular and Small Scope Observing - J Frisbie

Workshops – Free Form Q&A

1:00 pm Before Observing – Eyepiece, mirror, lens cleaning, Imaging and CCD equipment, the GEM and AltAz tracking, electronics in Astronomy, reference books and star charts, Solar filters, observing logs and software, what to take to star party & observing

2:00 pm Observing Site – Site etiquette, Go To Mounts, Using the Intelliscope, Collimation how to, star hopping and session tips, imaging manipulation software, using scopes and telescopes for maximum session rewards

Featured Subjects

10:00 am Starting off Right in Astronomy – T Trusock

11:30 am Einstein's Legacy – L Halstead

1:00 pm New Possibilities, ? New Neighbors – K Bjorkman

2:00 pm Panoramic Image of the Night Sky – A. Mellinger

Planetarium Lectures @ 10, 11, am & 1, 2 pm

Food Provided by Leda's Coney Island
(Pitas, salads, coney, rice pudding, hot/cold drinks)

Admission: \$5 at the door.

Table Fee for Resellers: \$15 in advance or \$20 at the door.

Doors open at 8 AM for table/vendor set up.

Site Located at: 30650 Six Mile Rd, Livonia, 48152

Make checks payable to: FAAC P.O. Box 7527, Dearborn, MI 48121-7527

Vendors, Manufacturers, Commercial contact Tom Blaszk at: key_string_guy@yahoo.com
OR Doug Bauer at: DougBauer@comcast.net.



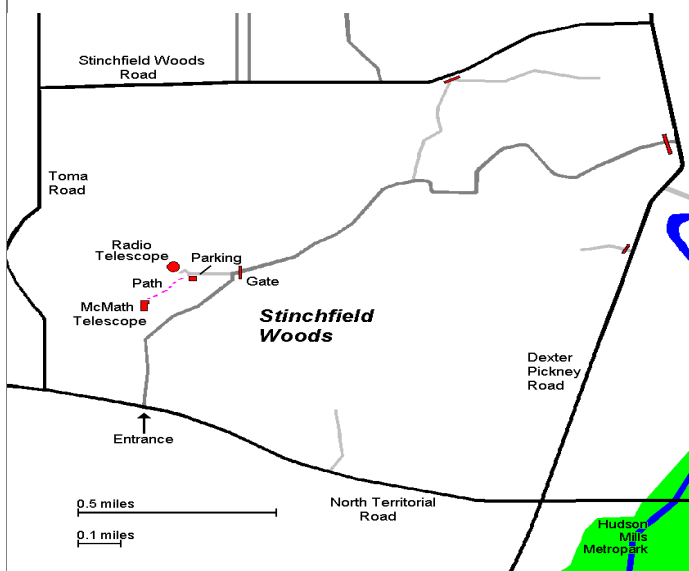
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Places & Times

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.

(See the website

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

for more information on joining the club).

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.



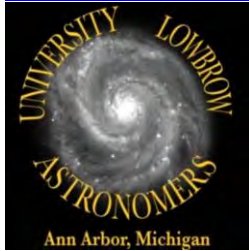
Lowbrow's Home Page

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



University Lowbrow Astronomers

Reflections & Refractions



Website

www.umich.edu/~lowbrows/

