



The IAS News & Views

Volume 80, Issue 8

www.iasindy.org

Indiana Astronomical Society/Link Observatory Public Lecture

July 27, 2013

8:00 PM

Goethe Link Observatory

Observation Planning

Jeff Patterson

Have you ever gone out to observe, got set up, and asked now what am I going to look at? One tends to go to the Messier objects or the objects we know and by the end of the evening, we have seen nothing new. Bruce and Phil have solved that somewhat by having a monthly observing lists. Now how do you find the objects? One can use an atlas or The Sky or some other planetarium package. I use a multitude of packages. I will discuss The Sky, Astroplanner and ST3 programs with their planning and logging features.

IAS NEWS

Indiana Family Star Party

If you are planning to attend the 2013 IFSP, either as a camper or just for one day, we could use your help by filling a two-hour time slot at the registration booth. The IAS is responsible for checking in pre-registered attendees and collect fees for at-gate registrants and walk-ins.

I have set up two-hour time slots from 4:00pm to 10:00pm on Friday and from 10:00am to 12:00pm on Saturday.

If you are interested in helping, I will have a sign-up sheet at our General Meeting this Saturday or just e-mail me with your name, phone number and if you have a day/time preference. I will do my best to accommodate these preferences. Information about this event can be found at <http://home.comcast.net/~jmmahony1/PGO/starparty/>, including the registration form.

Gerald Venne

From the President's Desk

Many thanks to all who are helping Mike Newberg by participating in our McCloud Stargaze outreach. Your assistance is very much appreciated.

The Indiana Family Star Party will be held during the period 1 – 4 August. The Moon will not rise until about 3 AM so it should not interfere with our activities. Bring your scope and enjoy observing with friends. Consider inviting interested newcomers for an evening's observing.

We are tasked with manning the IFSP registration tent. Please let Gerald Venne know that you can spare an hour or two to help at the desk. Also, we need volunteers to help with the children's Sky Trekker program on Friday evening. If you can find Polaris, you are good for this program. Please let Doug Brown know that you can help for an hour or so.

John Scheuring, a former IAS member, is donating his 10 inch cassegrain telescope to the IAS. We are planning to install this telescope in the roll-off observatory behind the Link. We hope to remove the old Fecker mount and, with IU's blessing, either store it or donate it to the Cincinnati Astronomical Society/ University of Cincinnati. The 10 inch lens for the scope is currently in Cincinnati.

Our general meeting in July is scheduled near the last quarter Moon on the 27th rather than near new Moon a week later so that we do not overlap with the Indiana Family Star Party. However, there is a second weekend, 9 through 11 August, that is also near new Moon. We thus have two chances near new Moon in early August for clear sky weekends. We have scheduled a campout on 26 & 27 July for those interested in staying the weekend at Link. Please let us know!

The following meeting at Link Observatory will be on August 31st, a week earlier than new Moon due to the Labor Day holiday. The Link Observatory will be available over the holiday for those interested in helping operate the 36" telescope.

A qualified Telescope Operator, per our SOPs, must be present to open the Link.

Recent Events for the IAS

Students from ArchiCamp Visit Link Observatory

On Thursday, June 27th, approximately 25 students participating in the Community Foundation of Morgan County's *ArchiCamp* visited Link Observatory for a presentation given by Tom Borlik with IAS President, Bill Conner, and IAS members Fred & Laura Keller assisting.

This program, operating under the aegis of *The Indiana Landmarks Foundation* provided interested students with an up-close viewing of some of Morgan County's architectural treasures – which, of course, has to include this wonderful legacy provided to the State of Indiana by Dr. Goethe Link.

Students learned how the building was constructed and why a person, such as Dr. Link, would devote so much of his time and money to create a "cathedral of the skies", but the presentation also covered many other aspects of Dr. Link's remarkable career.

Also, not architecturally connected, mention was made of Helen's daffodil gardens which seemed to complement Dr. Link's avid study of the stars with the beauty of the earth.

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Hopefully, the students' appetite for more knowledge of the Link history might bring them back as "celestial visitors"?

Observing at Link

Friday night at Link we had a great night. There were nine vehicles present each with scope. We gave a couple of tours of the observatory to local people who said the gates were always locked. We gave them each a business card and instructed them to go to our website and pull up our schedule to see when we will be open.

Then we set up out back and worked on the July deep sky list. NGC 6144 and 6284 were faint enough that we came back to them to be sure we had seen them. We had no luck seeing the challenge object. We think we had it in our field of view since we had the right star field but I wouldn't swear that I saw anything I could describe or sketch. Wayne McSpadden, Steve McSpadden, and Mike Birch completed the list for sure. Mike Newberg and some others may have also but I'm not sure who all came over and looked thru our scopes. Matt and Janet, new members, stayed with us all evening.

McCloud started with some sprinkles about 8:30. Park naturalist Stephanie promised it would clear off so we set up. She was right. The later it got, the better the sky looked. We had around six scopes set up plus four of the park's scopes. Probably fifteen or twenty paying customers were suitably impressed.

From the peanut gallery, John Molt needs to speak more softly, Mike Newberg should speak louder, and Betsy Brown should be more sociable.

And no one has received their certificates for the June deepsky list.

Steve

McCloud Monthly Star Gaze July 13

A great night at McCloud for the Stargaze! Thank you Steve McSpadden, John Molt, Trey Roob, James Lamb, Amie Barnes, Shashi Penumarthy, Doug & Betsy Brown, & Rick Betuker (man, I hope I didn't forget anyone. My apologies if I did). There were about 25 or so attendees. The kids were engaged and asked a lot of great questions during my presentation and on the observing field.

The only issue during my Powerpoint show was that I had the Trifid Nebula (M20) labeled as M42. I forgot to update the information when I switched the picture - D'OH! The seeing was really good despite the high humidity. The band of the Milky Way was clearly visible and we saw a few pretty bright meteors. I didn't even get out my scope; I enjoyed walking around and just talking to the attendees and answering questions. Thanks again to those who were there. We'll see you for the next Stargaze on August 17th!

Mike

Upcoming Public Events for July and August

IAS/Holcomb Observatory Program Planning Meeting—7:00 PM, July 23, Holcomb Observatory

Link Campout July 26-28 Goethe Link Observatory

IAS/Link Observatory General Meeting July 27 8:00 PM Link Observatory

Deep Sky Observing August 2-3 weather permitting

Deep sky observing, August 9-10, weather permitting

McCloud Monthly Star Gaze August 17, 8:30PM. McCloud Nature Park

IAS/Holcomb Observatory Program Planning Meeting—7:00 PM, August 27, Holcomb Observatory

Link campout August 30-31

IAS/Link Observatory General Meeting August 31 8:00 PM Link Observatory

The IAS Board Meeting is being held at Holcomb Observatory on the Butler Campus at 7:00PM. Should you have an issue that you would the Board to address, please contact Bill Conner via the webpage iasindy.org under the contact us section.

Observing Activities

Activities for July and August:

Link Observatory -

Link Campout July 26-28. Gates open 6:00 PM Friday.

Link Campout August 30-September 1. Gates open 6:00 PM Friday.

Impromptu observing as sky conditions allow. Check Yahoo site for information.

McCloud Activities—

McCloud Monthly Star Gaze August 17

Impromptu observing as sky conditions allow. Check Yahoo site for information.

Dark Sky Observing Site Information

We are able to go to the Link, Prairie Grass Observatories, and McCloud Nature Park at non scheduled times if they do not conflict with reserved activities:

The Link Observatory is open for observing during IAS functions held there from early Spring to late Fall. See our calendar of events on the website www.iasindy.org. Observing opportunities at non scheduled times are announced on the IAS Yahoo group and are generally scheduled by our telescope operators as weather permits. See our calendar of events under the “Events Schedule” tab on our website at www.iasindy.org

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For those interested in going to McCloud to observe, please call the park office 765 676 5437 before 4PM on the day you want to go out. They will give you permission to be there at night and make arrangements to turn off the lights.

For those interested in going to Prairie Grass Observatory for observing call Hoppe at 1-765-296-2753.

THE August DEEP-SKY CHALLENGE

Bruce Bowman

Below please find a list of ten (10) objects to view this month. Those who complete the primary objects will receive a certificate via email and be recognized in the News and Views. We're also providing a challenge object to help push the limits of your observing skills. It's not necessary to successfully view the challenge object to receive the certificate; we only ask that you try.

Please complete the following list to receive the August certificate:

M16 (cluster and nebula in Serpens Cauda)

M17 (emission nebula in Sagittarius)

M20 (emission nebula in Sagittarius)

NGC6826 (planetary nebula in Cygnus)

NGC6804 (planetary nebula in Aquila)

NGC6781 (planetary nebula in Aquila)

NGC6818 (planetary nebula in Sagittarius)

NGC6590 (reflection nebula in Sagittarius)

NGC6629 (planetary nebula in Sagittarius)

NGC6726/7 (reflection nebula in Corona Australis)

Challenge object for August 2013: IC1295 in Scutum

The above objects are located between 18 and 20 hours of right ascension and so are well-placed for evening viewing this month.

The dense star-fields of the summer Milky Way offer many types of deep-sky objects. The hard part can be deciding which ones to view! Last month we focused on globular clusters; but for August we're going to focus on various types of nebulae. We'll start to the north in Cygnus and work our way south.

NGC6826 is a bright planetary nebula that is easily located 30' due east of the double star 16 Cygni. This nebula, about 25" across, is known as the "Blinking Planetary." Stare directly at the 10th-magnitude central star and the surrounding nebula tends to fade away; look somewhat askew (a technique known as "averted vision") and the nebula pops back into view. By alternating between direct and averted vision the nebula can be made to blink. Many planetaries with a prominent central

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star will exhibit this phenomenon if the proper magnification is used. Novice observers would be well-advised to practice this technique as an aid in detecting even fainter objects.

The constellation of Aquila the Eagle contains many more planetary nebulae. [NGC6804](#) is about 4 degrees west of Altair and just southwest of a 7th-magnitude double. It is large for a planetary, nearly 60" in size, displaying a somewhat oblong disk with brighter edges. This nebula should be readily visible using an 8" scope under good conditions. Another 4 degrees to the southwest, you'll find two stars of 6th and 7th magnitude that are a degree apart. [NGC6781](#) is found halfway between these stars. Nearly 2' in diameter, it is large and conspicuous. Its northern edge is noticeably fainter, giving the nebula a crescent appearance in smaller apertures.

[M16](#) is primarily a nice cluster of young, blue stars that was discovered by Jean-Philippe de Cheseaux in 1745. These very hot stars emit much UV radiation, causing the gas from which they formed to fluoresce in visible light. This emission nebulosity has been given a second designation, IC4703, and is commonly known as the Eagle Nebula. The cluster is easy to spot in a small telescope but the nebula is not. A UHC/Ultrablock filter will greatly increase contrast and help bring out the tenuous nebulosity. Stars continue to condense out of this enormous bubble of gas and dust; and the region has been the subject of several popular Hubble Space Telescope photos, including the well-known "Pillars of Creation."

[M17](#) is located about 2-1/2 degrees due south of M16, just across the border into Sagittarius. This nebula is commonly known as either the Omega Nebula or the Swan Nebula; but to me it looks more like the latter, if you ignore the fact that it's upside down. One of the brightest emission regions in the sky, M17 is easily detectable with any optical aid; however, to fully appreciate it you need an OIII filter. I tried this earlier this summer and was rewarded with a field full of intricate detail. Many subtle edges and wisps became visible that were wholly undetectable without one. Many thanks to Vicki Switzer for this suggestion!

Roughly 2-1/2 degrees to the south-southwest of M17 lies the reflection nebula [NGC6590](#). Look for a somewhat oblong haziness about 2x3' in size enveloping a close pair of 10th-magnitude stars. Reflection nebulae are not gases excited to fluorescence, but instead originate from interstellar dust that is illuminated by a nearby bright star. Filters are of little use here and you should try to find a dark site. There has been some confusion around the identity of this nebula, and the RINGC location is 9' too far south. The nebula we're talking about is bright and easy and located at 18h17m00s right ascension and -19deg53m declination (J2000). The literature fails to provide any "official" brightness for reflection nebulae but my own estimate places it at magnitude 8.

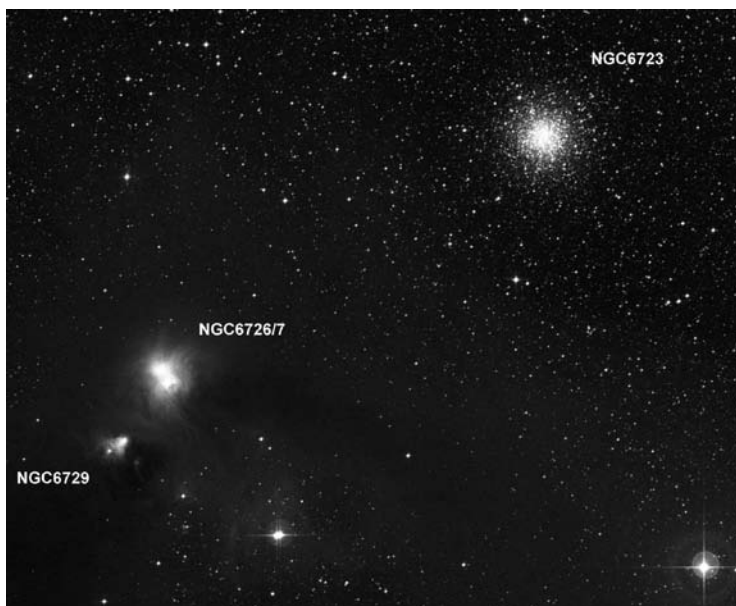
[M20](#) is an emission nebula lying 5 degrees southwest of NGC6590. This object is readily detected in 7x50 binoculars as a patch of haze about 12' in diameter that's slightly elongated north-south. The very hot [type O8] star in the center is what is exciting the gases in this region. Three prominent dust lanes are seen to radiate from this star, dividing the nebula into three parts like wedges of a pie. These dust lanes are the origin of the common name of this object: the Trifid Nebula. An OIII or UHC filter will help you detect these foreground details. About 10' north lies another star, around which lies reflection nebulosity that's of comparable size but much more tenuous. To my knowledge this region has no separate designation and is generally considered to be part of the Trifid.

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The planetary nebula NGC6629 is located about two degrees due north of the globular cluster M28. Star-hoppers should start at Kaus Borealis (lambda Sagittarii) and work your way up. At low power it appears as the central "star" in a row with two field stars, but at 200x or higher magnification you should be able to resolve its small, 15" disc. Those owning an OIII filter should try the following -- using an eyepiece with lots of eye relief, pass the filter between your eye and the eyepiece. Field stars will dim significantly, but the planetary nebula only dims a little, and will therefore stand out from the crowd. After doing this several times you should be able to identify the "star" that doesn't seem to be "quite right." You can then switch to high power to confirm your suspicions. Many otherwise bright planetary nebulae are tiny and located in dense starfields, in such situations you will find this trick very useful.

In eastern Sagittarius, follow a curving row of three 5th-magnitude stars that include 54 and 55 Sagittarii and proceed a little more than a degree north. You should land on another planetary nebula, NGC6818. Known as the Little Gem, this object has a very bright, bluish disk that's about the same size as NGC6629. An OIII filter at high power will show this little nebula to be somewhat annular, like a miniature Ring Nebula. While in the area you might also attempt the faint galaxy NGC6822, just 40' to the south-southeast. Also known as Barnard's Galaxy, this dwarf irregular is a member of the Local Group.

NGC6726/7 is located just across the border into Corona Australis, so you will need a reasonably unblocked view of the southern horizon. Start at gamma CrA and pan 50' west to find it. This is a fairly bright, two-lobed reflection nebula, with each lobe having its own NGC designation. Each lobe contains its own illuminating star, and is about 1.5' in size; the two halos overlap to form a figure-8 pattern. About 5' south-southeast lies NGC6729, a fainter reflection nebula that bears a strong resemblance to a comet. This whole area is heavily obscured by dust and displays few background stars; those stars that are visible illuminate the surrounding murk like streetlights on a foggy night. Vincent Price would love this region! While in the area be sure to check out the bright globular cluster NGC6723, just 30' to the northwest (see accompanying photo).



Our challenge object this month is another planetary nebula in Scutum. IC1295 can be found less than half a degree east-southeast of the globular cluster NGC6712. Although listed at photographic magnitude 15, this is quite misleading; the object is readily visible in scopes as small as 8" from a truly dark site. But you *will* need a fairly dark site, and you *will* need a moonless sky. Look for a featureless blob that's fairly large as planetaries go, perhaps 1.5' in diameter. If at first you don't succeed, try an OIII filter. Good luck!

If you complete this list prior to the end of August, contact Bruce Bowman to ensure you receive recognition. At this time only IAS members are eligible. Congratulations to the following seven (7) IAS members for completing the June challenge: Mike Birch, Bill Conner, Fred Keller, Laura Keller, Steve McSpadden, Wayne McSpadden, and John Shepherd. Five of the seven viewed or photographed at least one of the challenge objects.

We've been doing the deep-sky challenge for a year now...many thanks to all IAS members for your support of and participation in the program.

FAQs ABOUT THE IAS DEEP-SKY CHALLENGE

Q: Do I have to use my own equipment?

A: No...although using your own telescope is strongly encouraged. Also keep in mind that the IAS has an equipment loaner program.

Q: Do I need to find the objects myself?

A: No. You need only make the observations. Conceptually, if we had 10 telescopes set up at a star party -- each trained on a different object -- you could just go from one to the other and become eligible.

Q: What do I need to submit to you to receive the award?

A: Just let me know that you completed the requirements for the month and whether you were also successful in detecting the challenge object. Your certificate will be emailed to you as a PDF file.

August Novice/Urban Observing Challenge

Phil Dimpelfeld

M22, Globular Cluster in Sagittarius, 18h 36.4m, -23° 54', mag = 5.1, size = 24.0'

Epsilon Lyrae, "The Double Double", Quadruple Star in Lyra, 18h 44.3m, +39° 40', mag = 5.0, 6.1, 5.2, 5.5, sep = 208", 2.6", 2.3"

Beta Lyrae, "Sheliak", Optical Double/Variable Star in Lyra, 18h 50.1m, +33° 22', mag = 3.4(var), 8.6, sep = 46" (See note below)

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M11, "The Wild Duck Cluster", Open Cluster in Scutum, 18h 51.1m, -06° 16', mag = 5.8, size = 13.0'

M57, "The Ring Nebula", Planetary Nebula in Lyra, 18h 53.6m, +33° 02', mag = 8.8, size = 86" x 62"

Cr 399, "The Coat Hanger" or "Brocchi's Cluster", Asterism in Vulpecula, 19h 25.4m, +20° 11', mag = 3.6, size = 60.0'

Beta Cygni, "Albireo", Double Star in Cygnus, 19h 30.7m, +27° 58', mag = 3.1, 5.1, sep = 34.4"

M27, "The Dumbbell Nebula", Planetary Nebula in Vulpecula, 19h 59.6m, +22° 43', mag = 7.3, size = 8' x 5.7'

Mare Serenitatis, first quarter Moon

Plato, last quarter Moon

Challenge Object:

M8, Nebula in Sagittarius, 18h 03.8m, -24° 23', mag = 5.0, size = 90' x 40'

Congratulations to the following for completing the Novice/Urban List for July 2013:

- Eric Allen
- Roberta Allen

Notes:

The brighter component of Beta Lyrae is an eclipsing binary with a period of 12.94 days. Its magnitude will drop from 3.4 to 4.6 as the dimmer companion eclipses the brighter star.

To qualify for the Novice/Urban Observing List, you must observe at least 6 of the objects. Members are encouraged to find these objects without the use of GoTo so that they become more familiar with the night sky.

If you successfully observe at least 6 of the objects, please contact Phil Dimpelfeld (philip.dimpelfeld@yahoo.com). Let Phil know how many of the objects you were able to observe. You will be e-mailed a certificate recognizing your accomplishment.

The Novice/Urban Observing List will include objects on the Moon. Users should look for a map of the moon to use to identify future features. The "Sky & Telescope Field Map of the Moon" is a good investment (shopatsky.com).

IU Kirkwood Observatory Bloomington

The Kirkwood Observatory Solar Telescope is open on the "First Saturday" of each month from 1-3 PM. Viewers may even be able to see a solar prominence or two, weather permitting. Updated weather conditions and closings will be posted at the Kirkwood Observatory Hotline at (812) 855-7736, and at the Observatory webpage, <http://www.astro.indiana.edu/kirkwood.shtml>.

Monthly openings of the solar telescope are planned for the first Saturday of each month during our 2013 observing seasons. And if you want to follow the Sun in between our monthly Solar Telescope openings, the website www.spaceweather.com provides daily updates.

Kirkwood Observatory on the IU campus is open each Wednesday evening from Spring Break until mid-November, weather permitting! Join us for a night of observing the night sky with the Kirkwood 12" refractor. Please visit our schedule at <http://www.astro.indiana.edu/kirkwood.shtml>, for a list of dates and times.

For updated weather conditions and closings, please call the Kirkwood Observatory Hotline at (812) 855-7736.

NASA Space Place

Inventing Astrophotography: Capturing Light Over Time

By Dr. Ethan Siegel

We know that it's a vast Universe out there, with our Milky Way representing just one drop in a cosmic ocean filled with hundreds of billions of galaxies. Yet if you've ever looked through a telescope with your own eyes, unless that telescope was many feet in diameter, you've probably never seen a galaxy's spiral structure for yourself. In fact, the very closest large galaxy to us—Andromeda, M31—wasn't discovered to be a spiral until 1888, despite being clearly visible to the naked eye! This crucial discovery wasn't made at one of the world's great observatories, with a world-class telescope, or even by a professional astronomer; it was made by a humble amateur to whom we all owe a great scientific debt.

Beginning in 1845, with the unveiling of Lord Rosse's 6-foot (1.8 m) aperture telescope, several of the nebulae catalogued by Messier, Herschel and others were discovered to contain an internal spiral structure. The extreme light-gathering power afforded by this new telescope allowed us, for the first time, to see these hitherto undiscovered cosmic constructions. But there was another possible path to such a discovery: rather than collecting vast amounts of light through a giant aperture, you could collect it *over time*, through the newly developed technology of photography. During the latter half of the 19th Century, the application of photography to astronomy allowed us to better understand the Sun's corona, the spectra of stars, and to discover stellar and nebulous features too faint to be seen with the human eye.

Working initially with a 7-inch refractor that was later upgraded to a 20-inch reflector, amateur astronomer Isaac Roberts pioneered a number of astrophotography techniques in the early 1880s, including "piggybacking," where his camera/lens system was attached to a larger, equatorially-mounted guide scope, allowing for longer exposure times than ever before. By mounting photographic plates directly at the reflector's prime focus, he was able to completely avoid the light-loss inherent with secondary mirrors. His first photographs were displayed in 1886, showing vast extensions to the known reaches of nebulosity in the Pleiades star cluster and the Orion Nebula.

But his greatest achievement was this 1888 photograph of the Great Nebula in Andromeda,

which we now know to be the first-ever photograph of another galaxy, and the first spiral ever discovered that was oriented closer to edge-on (as opposed to face-on) with respect to us. Over a century later, Andromeda looks practically identical, a testament to the tremendous scales involved when considering galaxies. If you can photograph it, you'll see for yourself!

Astrophotography has come a long way, as apparent in the Space Place collection of NASA stars and galaxies posters at <http://spaceplace.nasa.gov/posters/#stars>.



Great Nebula in Andromeda, the first-ever photograph of another galaxy. Image credit: Isaac Roberts, taken December 29, 1888, published in *A Selection of Photographs of Stars, Star-clusters and Nebulae*, Volume II, The Universal Press, London, 1899.

Public Outreach Programs – To schedule a program at the Link Observatory or at your site, please contact the following people:

Public Outreach Programs: To schedule a public event, contact the IAS Events Coordinator by sending an email to events-coordinator@iasindy.org.

Goethe Link Observatory tour: To schedule a tour of the Link Observatory, contact the Link Observatory Manager by sending an email to link-observatory@iasindy.org

Astro Ads

Are you changing or upgrading your equipment? Do you have or are you looking for astronomical materials and equipment? The Indiana Astronomical Society as a service to its members, will publish non-commercial ads at no charge. The ad will stay in the Newsletter for 4 months and may be renewed at the owner's request.

To place an ad, send an email to toeditor@iasindy.org:

For Sale: Pre 1961 Fecker telescope and mount for sale.(at Rose Hulman)

This is an 8-inch telescope of unusual design. It appears to be a Maksutov design but the corrector / secondary are not curved.

The telescope was given to Rose-Hulman in 1961. It has been used on campus almost continuously until last year. The mount was used between 1961 and 1998 when it was replaced by computer controlled mount.

Telescope comes with a dew shield and dust cover. No eyepieces. The finderscope is missing its objective lens (we had been using a modern finderscope).

The mount is over 6 feet tall and over 3 feet wide and will not fit in the trunk of a car.

Condition: FAIR

To see photos or to place a bid go to

<http://www.publicsurplus.com/sms/auction/view?auc=943182>

Thanks,

Rick Ditteon

Equipment Loan Program

The Loan Program has been helpful to those new to the hobby and others in need of observing equipment.

Did you know you could borrow a scope or piece of astronomy equipment from the Society and take it for a test drive? The Society has a program where members who are trying to determine what kind of equipment to buy can borrow one of the Society's scopes for a month or two and see how they like it. Philip Dimpelfeld is the chairman of the program and can arrange for your pickup and training on the use of the particular instrument. This is a great way to see what telescope you want to purchase. We have several scopes, eyepieces and binoculars to loan.

We will consider donations of equipment that are appropriate for this program. The IAS is classified as a public charity under section 509(a)(2) of the internal revenue code. We will be happy to provide

you with an acknowledgement of your gift. Please contact our Equipment Loan Coordinator by sending an email to: equipment@iasindy.org

2013 Calendar of Monthly Meetings

Month	Board	General	NAG	McCloud
January	8	12	12	
February	5	9	9	
March	5	9	9	
April	2	6	6	20
May	28	June 1	June 1	18
June	25	29	29	15
July	23	27	27	13
August	27	31	31	17
September	24	28	28	14
October	22	26	26	12
November	19	23	23	
December	None	TBA		

IAS Membership Report for June 2013

On 6/30/13 the IAS had a total of 160 members.

During June there were 5 renewals, 2 new memberships and 2 members moved to inactive status.

The IAS welcomes the following new members:

Ray & Fawna Mathes - Martinsville, IN
Chuck R. Fields - Greenfield, IN

The following members were moved to inactive status:

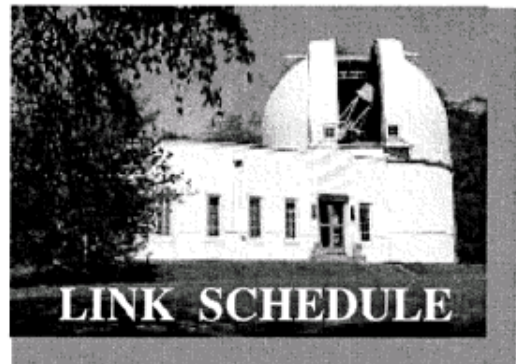
Robert Guernsey - Greenfield, IN
Gene Leeuw - Indianapolis, IN

Goethe Link Observatory

Observatory Address

Goethe Link Observatory
8403 N. Observatory Lane
Martinsville, IN 46151

Latitude: 39 degrees, 33 minutes north
Longitude: 86 degrees, 24 minutes west
Phone: (317) 831-0668



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Training programs are scheduled by the Observatory Manager as instructors are available and time permits. Although other requests can over-ride these sessions. It is the purpose of this listing to prevent activity conflicts.

To schedule the use of the 36-inch telescope: two criteria must be met: 1) *There must be a telescope operator and assistant available* 2) *contact the Observatory Manager for scheduling by sending an email to link-observatory@iasindy.org DON'T WAIT UNTIL THE LAST MINUTE TO MAKE YOUR REQUEST OR YOU MAY NOT GET ACCESS.*

IAS News & Views Monthly Newsletter for the IAS

Accessing the IAS News & Views

The current Newsletter can be found on the website www.iasindy.org

The monthly newsletter welcomes articles of local astronomical interest information and want ads: Please submit articles to the editor in a **email to editor@iasindy.org**:
The Indiana Astronomical Society, Inc

Membership information You may contact our membership coordinator by sending a email to **membership@iasindy.org**.

Contact any IAS officer or the Treasurer **via the webpage iasindy.org under the contact us section**

Pay Your Dues by PayPal

We can now pay dues on our website using Paypal. There is a cart system where you can pay dues, order magazines, or donate to the Society. The cart is found in the Join the Society section of the website. You will have to establish a PayPal account for yourself to make the transactions.

Requests for Information

You may contact our officers, Board members, and Coordinators via our website at www.iasindy.org. Place your cursor on the "Home" tab and then select "Contact us". You may then page down to the person you desire to contact and send an email message requesting information or a telephone call back. We will be happy to respond within a reasonable time frame.

Logo Clothing

The Board has developed a new supply of logo ware with our new logo using Mid Central Trophy in Kokomo, IN. Typically T shirts, sweatshirts, polo shirts, and caps are available. Now we are even making it easier for you. We have changed our method of order so that you can have better service. Call Linda, tell her this is an order for the IAS logo ware, discuss what you want and give her the size. She can determine the cost and shipping and mail the order to your home directly.

Linda

Mid-Central Trophy

422 Arnold Ct

Kokomo, IN 46902

765-453-5494

All Major credit cards are accepted.

Hours 9-5 EST

July August Calendar, 2013

For a more detailed Calendar of Events see the webpage www.iasindy.org

Campout at Link

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
July 21	Jul 22 Full Moon ○	July 23 Board 7:00PM Butler	July 24	July 25	July 26 IAS Campout at Link	July 27 Public Lecture 8 PM Link Observatory IAS Campout at Link
July 28	July 29 3rd QTR ☾	July 30	July 31	Aug 1	2 IFSP Deep Sky Observing	3 IFSP Deep Sky Observing
4 IFSP	5	6 New Moon●	7	8	9 Deep Sky Observing	10 Deep Sky Observing
11	12	13	14 1st Qtr ☾	15	16	17 McCloud Star Gaze
18	19	20 Full Moon ○	21	22	23	24 LOSSC Black Holes
25	26	27 Board Meeting 7PM	28 3rd QTR ☾	29	30 Campout at Link	31 Public Lecture 8 PM Link Observatory Campout at Link