

The IAS News & Views

Volume 78, Issue 5



www.iasindy.org

Remember We Move to the Link for the May Meeting

**May General Meeting
May 21, 2011
7:00 PM
Goethe Link Observatory**

**"Mirror-making -- Very Large, Very Fast"
Mike Lockwood
Lockwood Custom Optics**

Mike Lockwood is a full-time optician with his own company, Lockwood Custom Optics, in Philo, Illinois, just southeast of Champaign-Urbana. Since the beginning of 2003, he has ground or refigured well over 90 mirrors, ranging in size from 4.25" to 50" that include mirrors for four Cassegrain scopes. He has recently started manufacturing fast thin mirrors with f-ratios that are less than f4. These mirrors are featured in the fast telescopes made by Starmaster. Starmaster says that 80% of their new scopes are of the fast primary design.

We are in a new revolution in telescope design due to opticians like Mike. The advantage of using these optics in amateur instruments is that the eyepiece height is greatly reduced and, in some cases, eliminates the need for ladders. In addition, the thin mirrors equilibrate to ambient temperatures much faster than the older full thickness mirrors. One of his personal scopes is a 14" f/2.55 dobsonian. Issues related to these fast objects include the need for good collimation, excellent focusers and eyepieces, and special coma correctors. He worked with Al Nagler to design a special Paracorr (coma corrector) for mirrors in the f3 range. Mike will discuss these fast optics and the issues associated with them, from the perspective of an optician and a telescope builder, and if time allows, he will show some interesting photos from his work. There will be time for Q&A afterwards.

Biography

Mike grew up in the northern lower peninsula of Michigan, where the night sky was quite dark and transparent. With his interest in science, he started studying the night sky with binoculars and a borrowed 60mm refractor. Eventually, he wanted a better telescope to see more detail. After looking through a number of ads for an 8", he realized that most scopes in that size were too expensive, so his only solution was to build one. A subscription to Telescope Making magazine in the late 1980's and early 1990's also fueled his desire to make his own primary mirror and his own telescope. His early learning experience began with an 8" mirror kit from Willmann-Bell that his parents purchased for him. From that point on, through trial and error with several scopes, he developed his current level of expertise in figuring and testing high-quality optics.

In 1999, Mike received a Master's degree in electrical engineering from the University of Illinois Urbana-Champaign. From 2000 to early 2009, he was a research engineer at the Beckman Institute at the UIUC. His engineering work was in the field of signal processing, specifically acoustic signal processing and beam-forming algorithms. When research funding became difficult to find because of the economy, he decided to make the transition to full-time optical work in May of 2009.

IAS/WVAS Joint Observing Session and Campout April 29-30 Camp Cullom

IAS NEWS

Clean up at Link - May 14 9:00am

There will be a cleaning event to recover some of the area around the Link and the back gate. Bring trimmers, saws and clippers. The area has become very overgrown and we will cut and chip the trees and limbs. The inside of the Link is in pretty good shape. Work will begin at 9 am. If we have a good size work party it will not take too long. If you cannot cut maybe you can drag brush. Bring plenty of OFF as the chiggers may be out. See you there.

Logo Clothing

The Board is investigating new Logo clothing with our new Logo. However, there is some inventory of sweatshirts and t shirts with the old logo on it. So we are going to have a fire sale. All old clothing will be sold May 21 after the speaker at the general meeting for half price. Anything left over will be donated to a local charity. This is new clothing with the old logo that has never been sold. Sizes are limited.

IAS Joins International Dark Sky Association

As some of you know the IAS has joined the IDA as a supporting Society. There is a bi-monthly e-newsletter that IDA send out. If you would like to subscribe to it go to <http://www.darksky.org/>

Find the box for the newsletter and enter your email address as wanting to sign up for the e newsletter. We thought that this would be better than a forwarded message on our yahoo group every other month. You do not have to be an individual member to sign up for the newsletter. The pres.

IAS Calendar of Events for May

General Meeting May 21
Board Meeting May 24
NAG at McCloud May 7

NAG

New Astronomer's Group Meeting McCloud Nature Park Saturday May 7 7:30 PM

It's spring again and time to look at the sky and see the wonders of our Indiana skies. Have you ever looked up and wondered what that bright "star" was gleaming in the sky? Have you heard that an event was going to happen in a specific constellation, but you did not know how to find it?

The Indiana Astronomical Society and Hendricks County Parks Department will begin another year of monthly New Astronomer's Group meetings by hosting an evening of learning about our spring sky and then, weather permitting, actual observation of some of the April night sky objects. We will be meeting on Saturday May 7, at McCloud Nature Park starting at 7:30 pm. This first event may be cold so prepare for the temperatures. If it is clear, we will be observing.

THE NAG MEETING WILL BE HELD - RAIN OR SHINE.

Discussion topics for this month:

Learning the May Night Sky

- learn to recognize the Spring Constellations
- find Saturn
- learn to use a Star Wheel
- find Deep Sky Objects
- Question and answer session

The purpose and intent of the NAG is to introduce new astronomers to observing the night sky. All types of observing will be discussed including naked eye, binocular, and telescope.

If the weather cooperates, following the meeting, IAS members will have telescopes set up and attendees will have an opportunity to view some of the night sky objects discussed during the meeting. If you have binoculars or a telescope, please bring them.

The night sky can be an intimidating place. With a little help everyone can enjoy the celestial beauty that we have all taken for granted our whole lives. From the constellations to the deep sky; with the naked eye or with a telescope, there is something for everyone to enjoy.

We look forward to seeing you on the 7th.

Observing Activities

Link Campouts

The dates of the Link campouts have been set;

June 24-June 26 (same weekend as General Meeting)

Moonrise 2:05 AM June 25

Moonrise 2:35 AM June 26

August 26 - 28 Moonrise 5:22 AM Aug 27

Moonrise 6:35 AM Aug 28

Activities for May:

Link Observatory

Clean up May 14

General Meeting May 21

McCloud Activities–

NAG –. See you May 7.

Prairie Grass Observatory Activities–

Prairie Grass Observatory Campout April 29-30

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:

For those interested in going to The Link Observatories for observing call John Shepherd at 1 317-862-3442.

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 cut off the lights.

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

Other Observing Activities

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 2010 observing season. And if you want to follow the Sun in between our monthly Solar Telescope openings, the website www.spaceweather.com provides daily updates.

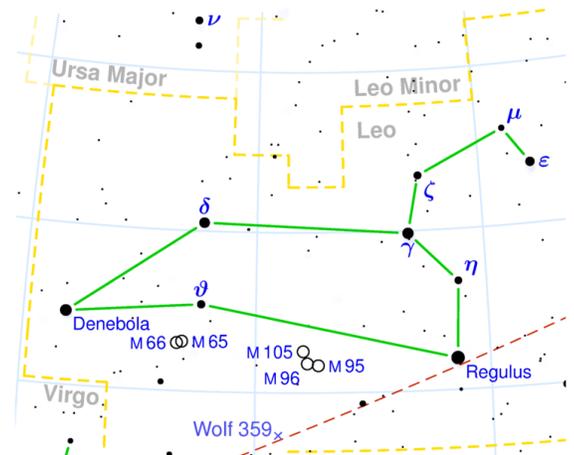
IU Kirkwood Observatory

Kirkwood Observatory on the IU campus will be open each Wednesday evening through the summer, 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.

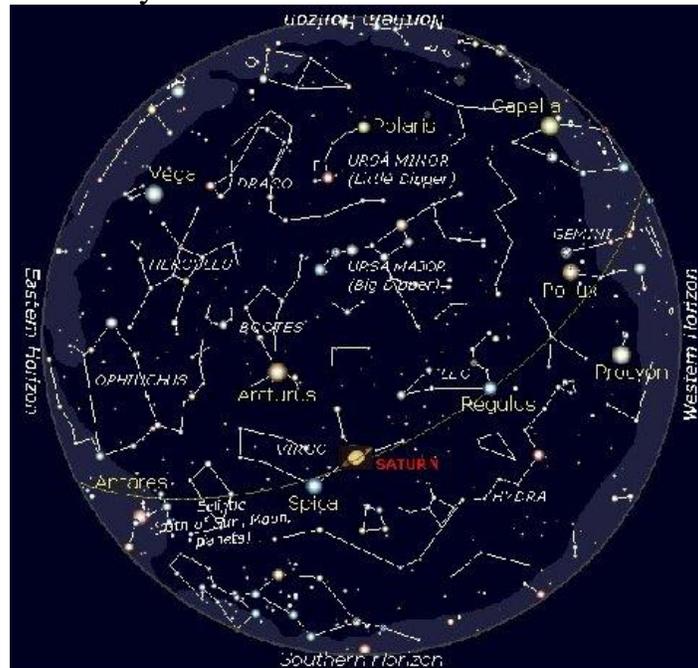
The IU Astronomy Department has an electronic bulletin to let people know about local astronomy activities and events. If you would like to subscribe, send an email to astdept@indiana.edu and we'll put you on the distribution list. Information about activities and events to be included in the e-bulletin should be sent to catyp@astro.indiana.edu.

Star of the Month - Regulus

Regulus (α Leo, α Leonis, Alpha Leonis) is the brightest star in the constellation Leo and one of the brightest stars in the night sky, lying approximately 77.5 light years from Earth. Regulus is a multiple star system composed of four stars which are organized into two pairs. The spectroscopic binary Regulus A consists of a blue-white main-sequence star and its companion which has not yet been directly observed, but is probably a white dwarf star.^[2] Located farther away is the pair Regulus B and Regulus C, which are dim main-sequence stars.



Star Gazer #555 for May 2011



This chart shows the night sky as appears **May 1 at 11:30 p.m., May 15 at 10:30 p.m., and May 31 at 9:30 p.m.** from latitude **30° N**. Hold the chart so the direction you are facing is at the bottom. For example, if you are facing north, turn the chart around so "Northern Horizon" is at the bottom as you hold it out in front of you. The stars on the lower part of the chart are those you will be facing in the sky. The stars at the chart's center represents the part of the sky straight overhead. [Sky chart generated using *Cartes du Ciel* freeware.]

Sun: **May 1** – Sunrise: 6:43 a. m. Sunset: 8:08 p. m. / **May 15** – Sunrise: 6:32 a. m. Sunset: 8:18 p. m. / **May 31** – Sunrise: 6:25 a. m. Sunset: 8:28 p. m. (Times exact for Waco, TX)

Moon: **May 3:** New / **May 10:** 1st Quarter / **May 17:** Full / **May 24:** 3rd Quarter

Night Sky Events [Held at arm's length, the width of your fist is 10 degrees and the width of your index finger is 1 degree. The width of a full Moon is ½ degree.]

* **Early early evenings of May:** The Milky Way lies flat around the horizon, making it seem to disappear.

* **May 1:** May Day and Beltane, a cross-quarter day celebrating the middle of spring.

* **May 1 morning** (30 minutes before sunrise): The crescent Moon, Venus, Mercury, Mars, Jupiter are all within a 10° circle very low in the east, but keep watching each morning the next couple of weeks.

* **May 6 morning:** The Eta Aquarid meteor shower peaks during a very favorable waxing crescent Moon.

- * **May 8 morning:** Mercury is three moonwidths to lower right of Venus low in the east.
- * **May 10 morning:** Mercury three moonwidths to lower right of Jupiter low in the east.
- * **May 11 morning:** Jupiter is one moonwidth to the upper left of Venus with Mercury three moonwidths to lower left of the brilliant "morning star."
- * **May 13:** Friday the 13th is an unlucky day for the superstitious; in some years this occurs two and even three times, but this year it happens but once – so is that bad luck or good luck?
- * **May 13 evening:** Saturn is 9° to the upper left of the bright waxing gibbous Moon.
- * **May 17:** The full Moon is called Milk Moon, Flower Moon, Corn Moon, and Planting Moon.
- * **May 23 morning:** Mars is two moonwidths above Venus with Mercury four moonwidths below low in the east.
- * **May 29 morning:** The crescent Moon is 5° to the upper right of Jupiter in the east.
- * **May 31 morning:** The crescent Moon is 6° to the left of Venus with Mercury 3° below.

Naked-eye Planets [*The Sun, Moon and planets rise in the east and set in the west due to Earth's west-to-east rotation on its axis.*]

Evenings: Saturn (southeast)

Mornings: Venus, Mercury, Jupiter, Mars (all very low in the east at dawn)

- * **Mercury** spends the month low in the east at dawn and is at its best early in the month.
- * **Venus**, the brilliant "morning star," is edging ever nearer the rising Sun.
- * **Mars** is barely beginning to emerge from the rising Sun, but still a challenge to see.
- * **Jupiter** is beginning to emerge in the morning and is becoming prominent by month's end.
- * **Saturn** is in the southeast in the early evening, up all night, and sets just before dawn.

Saturn

From now until the end of August Saturn will be at it best in this year's evening sky. In 2009 its rings were nearly edge-on from our view and appearing extremely thin. Last year they had opened (tilted) a bit and were more visible as seen in the Hubble Space Telescope photo (left). This year the tilt has increased somewhat as shown in the photo (right) taken March 20, 2011, by amateur astronomer **Dave Eisfeldt**, a member of the Central Texas Astronomical Society who lives in Waco. Note how the image taken with an inexpensive CCD camera and amateur telescope from under Central Texas skies compares respectably with the professional HST image taken from space.



Full Moon

Many people seemed to notice that the March full Moon appeared somewhat larger and brighter than usual. Unlike the optical illusion that makes the Moon seem larger when viewed near the horizon, this appearance was no illusion. Owing to the Moon's slightly elliptical (oval-shaped) orbit, once each month it swings away from Earth (called apogee) and once nearer Earth (called perigee); there is nothing unusual about this as it occurs each month and usually goes unnoticed. This one, however, was more apparent since the full Moon happened to coincide with perigee when the Moon is 14% nearer than at apogee, so it really did look larger and brighter. This terrific image was taken March 20, 2011, by amateur astronomer **Phillip Jones**, a member of the Central Texas Astronomical Society who lives in Frisco, TX. (See more of his great astronomy images at www.visualuniverse.org.)



Stargazer appears every other week in the *Waco Tribune-Herald* and other newspapers. Paul Derrick is an amateur astronomer who lives in Waco. Contact him at: paulderrickwaco@aol.com, (254) 7233-6346, or 918 N. 30th St., Waco, TX 76707.

Copyright 2011 by Paul Derrick. Permission is granted for free electronic distribution as long as these paragraphs are included. Please obtain permission from the author for publication in any other form. To be added to (or removed from) the free e-mail distribution list, send your e-mail address (and name) to paulderrickwaco@aol.com.

**** See the Stargazer Web site at <http://www.stargazerpaul.com>**

Membership Status

The following changes in membership took place in April:

Total Membership 157

Renewals: 8

New student members:

New Members:

Inactive status:

IAS LIBRARY:

There is now a link on our website page for our new Multi-Media Library. Greg has built this library of a multitude of videos that are on the web. We think it will be a great addition to our library for both novices and experienced observers. Greg has many more sources to go through so the library will continue to grow. If you have comments or questions about the library please contact Greg McCauley. (Contact Greg via the webpage iasindy.org under the contact us section)

Do you have a question or need?

We have established a list of members who would be willing to receive calls for help on specific objects. If you have a specific skill and would be willing to help others please contact Jeff Patterson KB9SRB@hotmail.com.

Based upon the responses we received to your intro question recently, perhaps we should add a section to the bulletin naming those members who would be willing to receive calls for help on specific subjects.

William Conner (wmtconner@att.net) - for CCD imaging and film photography.

Jeff Patterson (Contact Jeff via the webpage iasindy.org under the contact us section) –
Observatory design and construction

Eric Allen (ericandroberta@sbcglobal.net) - Telescope making and mirror grinding

Brian Murphy (bmurphy@monumentcompanies.com) - "telescope construction and collimation".

Public Outreach Programs – If you want to schedule a program at the Link Observatory or at you site, please contact the following people:

Gerald Venne is our Public Events Coordinator. He will be responsible for coordinating Public Events for the IAS. To schedule a public event contact Gerald Venne (Contact Gerald via the webpage iasindy.org under the contact us section).

He needs your help. Let Gerald know if you would like to show the public our sky. We need people to help at Link and elsewhere. It is actually a lot of fun.

If you would like to schedule the Goethe Link Observatory, please contact

John Shepherd. Contact John via the webpage iasindy.org under the contact us section)

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 Bulletin for 4 months and may be renewed at the owner's request.

To place an ad, contact:

Bulletin Editor
Jeff Patterson
1780 S. Morgantown Rd.
Greenwood, IN 46143
(317) 300-0449
E-Mail: KB9SRB@Hotmail.com

For Sale: MEADE 8" F/4.5 NEWTONIAN

Includes German Equatorial Mount with three counterweights, felt-lined mounting rings, RA and Dec slow motion controls, accessory tray and 6x30 finder scope. Eyepieces include 25mm MA and 9mm Ortho. All instruction manuals are included.

Additional Accessories:

- * Quartz RA motor drive incl battery pack
- * Polar alignment viewfinder
- * 12.5mm illuminated reticle eyepiece
- * Meade 60mm guidescope with mounting rings and 1.25" diagonal
- * 1.25" camera adapter
- * Meade 2x Barlow
- * Piggyback camera bracket

Aluminized mirror has been cleaned and collimated. Optics are excellent, like new.

Telescope is in very good condition. A complete package for wide-field astrophotography and deep sky observation.

Asking \$500.00 – Call Bill at 892-2036 or e-mail at bwilhite@tds.net.

For Sale or Trade: CELESTRON HEAVY-DUTY TRIPOD, WEDGE, DRIVE, FORK ARMS

Heavy-duty tripod and wedge for the classic C8. Tripod has 2" legs that are extendable with step-locks and has a center post with an integral leg spreader. Wedge is cast iron with a hand-screw latitude adjustment. These components were built to last a lifetime and then some. I'm also including the drive base, fork arms, and power cord. This is the old-style base with the RA spur drive (no worm). The drive has slow-motion controls and setting circles and yes, it still works.

The C8 optical tube assembly is NOT included. \$300 takes all. I will also consider taking a good wide-field eyepiece in exchange (20mm f.l. minimum). Contact bruce.bowman@tds.net or call 317-539-2753

Equipment Loan Program

The Loan Program has been helpful to those new to the hobby and others in need of observing equipment. We consider offers of equipment you may not have need for any longer.

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. Philip Dimpelfeld **Contact via the webpage iasindy.org under the contact us section**

Board Meeting –May 24, 2011

The IAS Board Meeting is being held at 430 Massachusetts Avenue in downtown Indianapolis. The building is at the point of convergence of Mass. Ave., Vermont and Alabama Streets. There is a Starbucks located in the frontage of the building. The coffee shop stays open late into the evening. Try to park as close to Starbucks as possible, preferably in a metered space. On-street parking is free after 5pm. Handicapped parking is directly in front of Starbucks entrance. The entrance to the building is to the left of Starbucks around on the side. We meet in the basement. Ride the elevator (around the corner to your left) to the basement. Turn right as you exit the elevator and go through the first door on your right. This is the conference/meeting room. If you need further assistance, please contact Jeff Patterson via the webpage iasindy.org under the contact us section

2011 Calendar of Meetings

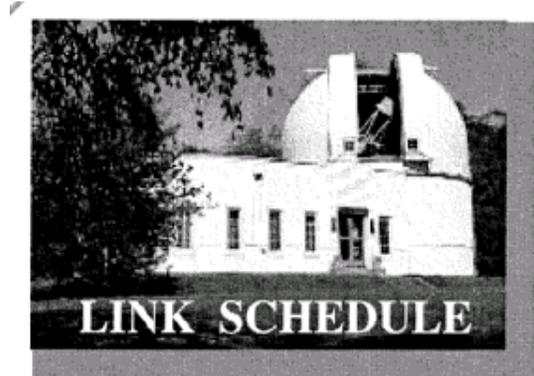
	NAG	General	Board
January		22-Jan	25-Jan
February		19-Feb	22-Feb
March		26-Mar	29-Mar
April	9-Apr	23-Apr	26-Apr
May	7-May	21-May	24-May
June	11-Jun	25-Jun	28-Jun
July	9-Jul	23-Jul	26-Jul
August	6-Aug	20-Aug	23-Aug
September	3-Sep	17-Sep	20-Sep
October		22-Oct	25-Oct
November		19-Nov	22-Nov
December		17-Dec	

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



This schedule is being published to assure proper access to the Link Observatory for programs that are designed as observational, general education, astronomy conferences, or amateur research projects. Training programs are tentatively scheduled for Saturday evenings only. Although other requests can over-ride these sessions. It is the purpose of this listing to prevent activity conflicts.

If you need to acquire use of the 36-inch telescope: remember two important IAS guidelines: 1) *There has to be two or more IAS members present.....*2) *contact the Observatory Manager: John Shepherd* **Contact via the webpage iasindy.org under the contact us section.** DON'T WAIT UNTIL THE LAST MINUTE TO MAKE YOUR REQUEST OR YOU MAY NOT GET ACCESS.

IAS News & Views Stats

Accessing the IAS News & Views

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

IAS News & Views

The monthly newsletter welcomes articles of local astronomical interest information and want ads:

Please submit to

The Indiana Astronomical Society, Inc

Jeff Patterson, editor

1780 S. Morgantown Rd

Greenwood, IN 46143

Phone: (317) 300-0449

KB9SRB@hotmail.com

Membership information Contact via the webpage iasindy.org under the contact us section

Contact any IAS officer or the Treasurer John Shepherd or Vicki Switzer

Observatory Manager

John Shepherd **Contact via the webpage iasindy.org under the contact us section**

Public Event Coordinator

Gerald Venne **Contact via the webpage iasindy.org under the contact us section**

Equipment Loan Program Coordinator

Philip Dimpelfeld **Contact Phil at philip.dimpelfeld@comcast.net**

Membership Coordinator

Vicki Switzer **Contact Vicki via the webpage iasindy.org under the contact us section**

May Calendar, 2011

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

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
1	2	3 New Moon ●	4	5	6	7 NAG At McCloud
8	9	10 1 st QTR ☾	11	12	13	14
15	16	17 Full Moon ○	18	19	20	21 General Meeting 7:00 PM
22	23	24 Board Meeting 3rd QTR ☾	25	26	27	28
29	30	31				