

The IAS News & Views

Volume 78, Issue 7



www.iasindy.org

**July General Meeting
July 23, 2011
8:00 PM
Goethe Link Observatory**

Vega and Arcturus: Luminaries of the Summer Sky David Williams

The stars Vega and Arcturus are easy to find, because they are the two brightest stars in the summer sky. They are, in fact, equal in brightness, but they differ from each other in every other way. Vega is a young, white (hot) main sequence star, Arcturus is an evolved orange (cool) giant star. The talk will discuss what the masses, temperatures, and sizes of these two stars tell us about stellar evolution. We will also discuss how each of these stars has contributed to astronomical knowledge. For example, Vega was the first star to have its parallax measured accurately and the first star to be photographed. Arcturus was one of the first stars whose proper motion was discovered by Sir Edmund Halley of comet fame. Vega was our Pole Star long ago and will be again. Arcturus was important to the ancient Polynesian navigators, guiding them to the Hawaiian Islands. From ancient star lore to modern astrophysics, Vega and Arcturus are indeed the luminaries of the summer sky.

David Williams is a 22-year member of the IAS. He has been an amateur astronomer since 1957, when he plotted the Perseid meteors on a hand-drawn star chart. He is a past president and 49-year member of the American Association of Variable Star observers and has made more than 25,000 visual and photoelectric observations of variable stars. He has also studied many neglected variables with the Harvard Observatory photographic plate collection. He has co-authored several papers in the professional journals. He discovered two eclipsing binary stars using the 10-inch astrograph and blink comparator at Link Observatory.

IAS NEWS

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. Thanks to John Shepherd and Doug

Sangunetti for getting it done. It was not as easy as it seemed. The cart is found in the Join the Society section. You will have to establish a PayPal account for your self.

Indiana Family Star Party/GREATCon 2011

July 28 - 31

The IAS is, once again, co-sponsoring the Indiana Family Star Party. This is held at the Prairie Grass Observatory on the grounds of Camp Cullom just outside of Frankfort, Indiana. We are again responsible (with help from the Muncie Astronomy Club), for the check-in/registration booth and we need volunteers to help run that booth. We will check in pre-registered attendees and collect fees for at-gate registrants and walk-ins.

For Friday and Saturday I will set up two-hour time slots and plan to have at least two people in the booth at all times. The booth will be open for Registration on Friday from 4:00pm to 10:00pm and on Saturday from 10:00am to 12:00pm. There are other registration times that the booth will be closed but others will take care of registering during these times at the Information Office.

If you are interested in helping just e-mail me with your name and phone number and if you have a 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. Note that pre-registration is discounted but the deadline is July 18.

Gerald Venne
IAS Public Events Coordinator
gvenne@iquest.net

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.

We have clothing with the new logo as well. The plan is to take orders and then order clothing. You can pay for it on receipt.

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 July

General Meeting July 23
Board Meeting July 26
NAG at McCloud July 9

NAG

New Astronomer's Group Meeting McCloud Nature Park Saturday July 9 8:00 PM

The Indiana Astronomical Society and Hendricks County Parks Department join to provide 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 June night sky objects. We will be meeting on Saturday July 9, at McCloud Nature Park starting at 8:00 pm. This may be cool so prepare for the temperatures. If it is clear, we will be observing. Please bring mosquito repellent.

THE NAG MEETING WILL BE HELD - RAIN OR SHINE.

Discussion topic for this month:

Vega and Arcturus: Luminaries of the Summer Sky

The stars Vega and Arcturus are easy to find, because they are the two brightest stars in the summer sky. They are, in fact, equal in brightness, but they differ from each other in every other way. Vega is a white (hot) dwarf star, Arcturus is an orange (cool) giant star. Vega is young, Arcturus is old. Learn how to find these stars and follow them through the seasons. The talk will also discuss how each of these stars has contributed to astronomical knowledge. For example, Vega was the first star to have its distance measured accurately and the first star to be photographed. Arcturus was one of the first stars whose motion through space was discovered by Sir Edmund Halley of comet fame. Vega was our Pole Star long ago and will be again. Arcturus was important to the ancient Polynesian navigators, guiding them to the Hawaiian Islands. From ancient star lore to modern astrophysics, Vega and Arcturus are indeed the luminaries of the summer sky.

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 9th.

Observing Activities

Link Campouts

August 26 - 28 Moonrise 5:22 AM Aug 27

Moonrise 6:35 AM Aug 28

Activities for July:

Link Observatory

General Meeting July 23

McCloud Activities–

NAG –. See you July 9.

Prairie Grass Observatory Activities–

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 monthly 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.

NASA Space Place

Finding Planets among the Stars

by Dr. Tony Phillips

Strange but true: When it comes to finding new extra-solar planets, or exoplanets, stars can be an incredible nuisance.

It's a matter of luminosity. Stars are bright, but their planets are not. Indeed, when an astronomer peers across light years to find a distant Earth-like world, what he often finds instead is an annoying glare. The light of the star itself makes the star's dim planetary system nearly impossible to see.

Talk about frustration! How would *you* like to be an astronomer who's constantly vexed by stars?

Fortunately, there may be a solution. It comes from NASA's Galaxy Evolution Explorer, an ultraviolet space telescope orbiting Earth since 2003. In a new study, researchers say the Galaxy Evolution Explorer is able to pinpoint dim stars that might not badly outshine their own planets.

“We've discovered a new technique of using ultraviolet light to search for young, low-mass stars near the Earth,” said David Rodriguez, a graduate student of astronomy at UCLA, and the study's lead author. “These M-class stars, also known as red dwarfs, make excellent targets for future direct imaging of exoplanets.”

Young red dwarfs produce a telltale glow in the ultraviolet part of the electromagnetic spectrum that Galaxy Evolution Explorer can sense. Because dwarf stars are so numerous—as a class, they account for more than two-thirds of the stars in the galaxy—astronomers could reap a rich bounty of targets.

In many ways, these stars represent a best-case scenario for planet hunting. They are close and in clear lines-of-sight, which generally makes viewing easier. Their low mass means they are dimmer than heavier stars, so their light is less likely to mask the feeble

light of a planet. And because they are young, their planets are freshly formed, and thus warmer and brighter than older planetary bodies.

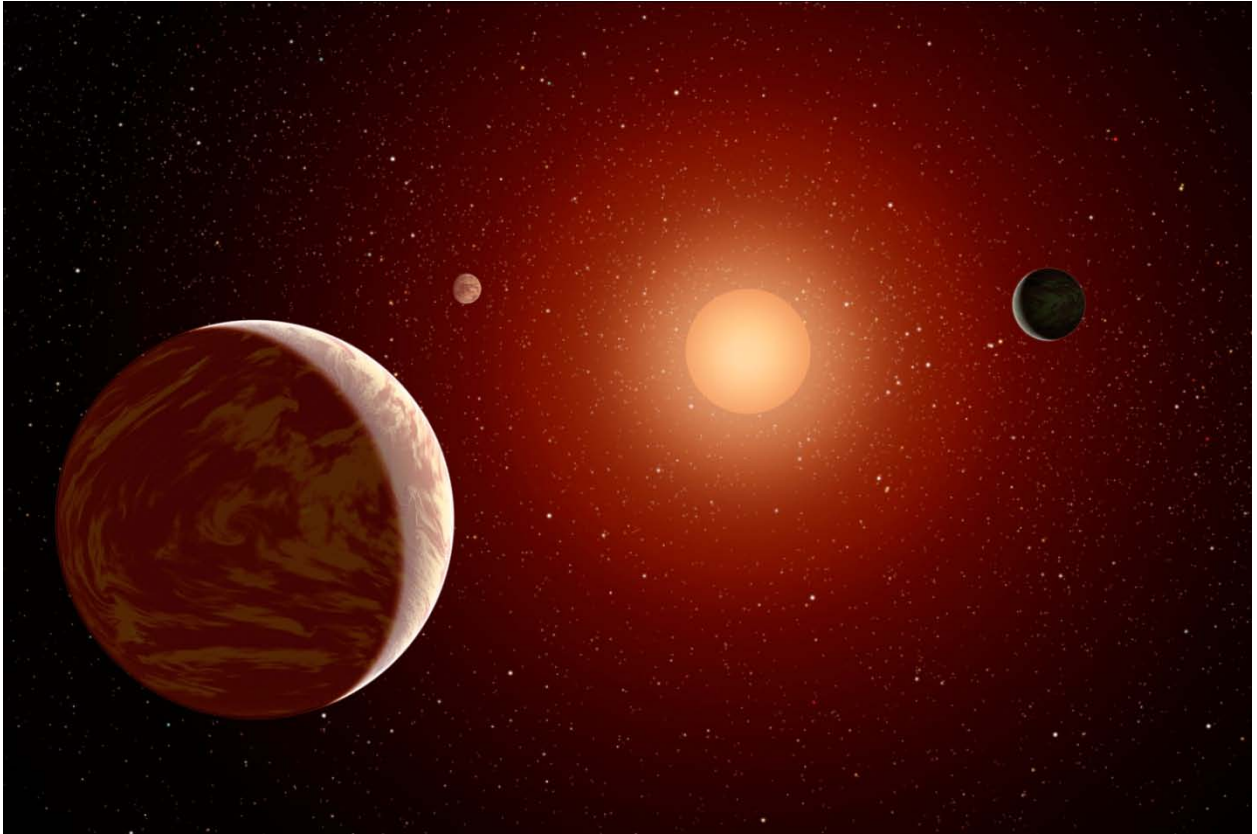
Astronomers know of more than five hundred distant planets, but very few have actually been seen. Many exoplanets are detected indirectly by means of their “wobbles”—the gravitational tugs they exert on their central stars. Some are found when they transit the parent star, momentarily dimming the glare, but not dimming it enough to reveal the planet itself.

The new Galaxy Evolution Explorer technique might eventually lead to planets that can be seen directly. That would be good because, as Rodriguez points out, “seeing *is* believing.”

And it just might make astronomers feel a little better about the stars.

The Galaxy Evolution Explorer Web site at <http://www.galex.caltech.edu> describes many of the other discoveries and accomplishments of this mission. And for kids, how do astronomers know how far away a star or galaxy is? Play “How Old do I Look” on The Space Place at <http://spaceplace.nasa.gov/whats-older> and find out!

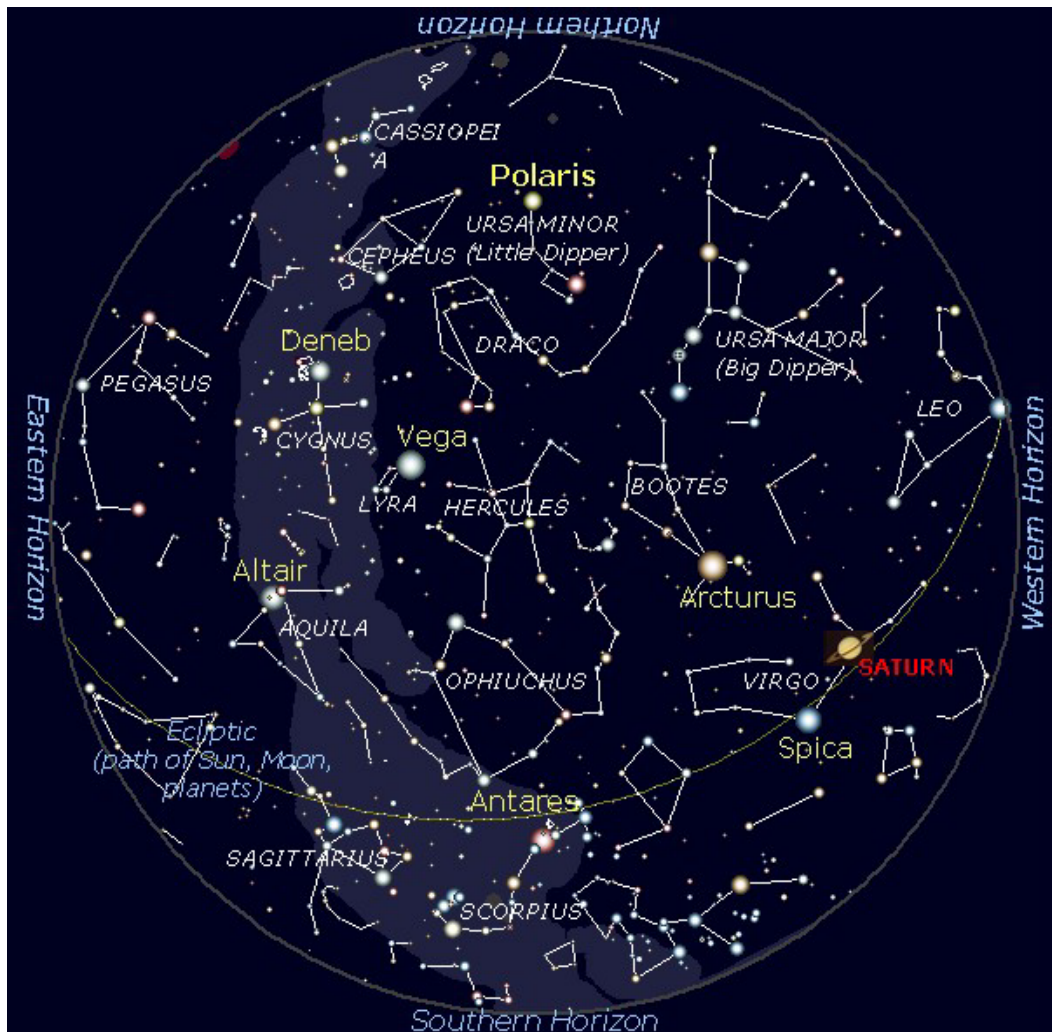
This article was provided by the Jet Propulsion Laboratory, California Institute of Technology, under a contract with the National Aeronautics and Space Administration.



Exoplanets are easier to see directly when their star is a dim, red dwarf.

Stargazer #559 June 24, 2011

July 2011

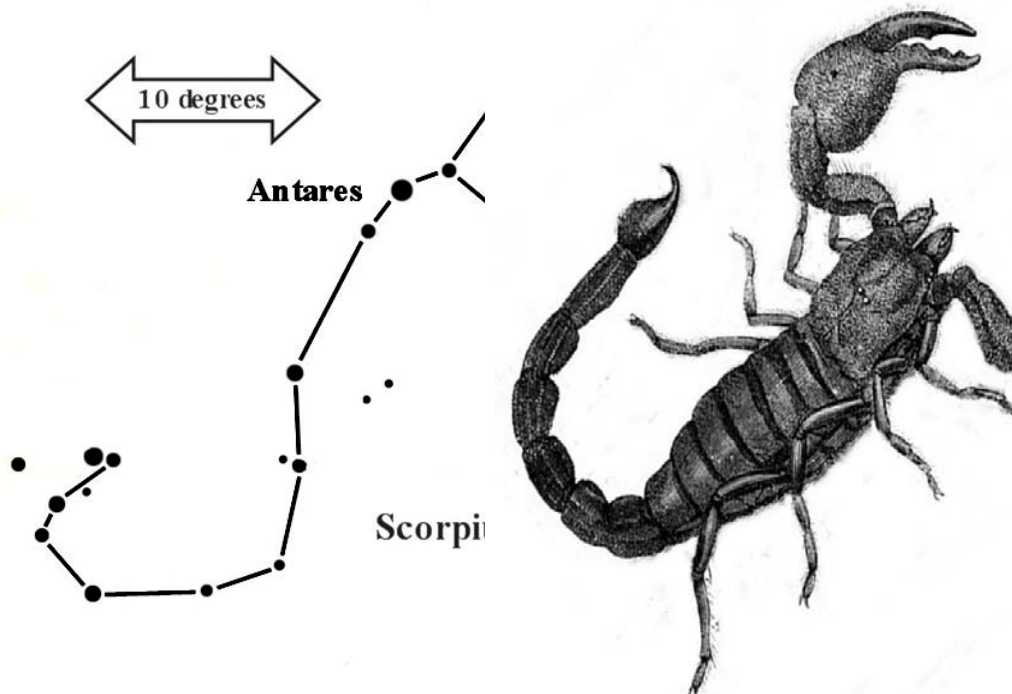


This chart shows the night sky as appears **July 1 at 11:30 p.m., July 15 at 10:30 p.m., and July 31 at 9:30 p.m. from latitude 30° N.** Hold the chart so the direction you are facing is at the bottom. For example, if you are facing north, turn the chart around so "Northern Horizon" is at the bottom 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.] / To keep your eyes adjusted to the darkness as you look at the night sky, use a red-light flashlight to view the chart. You can make your own by putting red cellophane over the light or by coloring the lens of the flashlight with a red marker pen.

- **Sun**
July 1 – Sunrise: 6:27 a.m.; Sunset: 8:37 p.m. / July 15 – Sunrise: 6:34 a.m.; Sunset: 8:35 p.m. / July 31 – Sunrise: 6:44 a.m.; Sunset: 8:25 p.m. (exact for Waco, TX)
- **Moon**
July 1: New / July 8: 1st Quarter / July 15: Full / July 23: 3rd Quarter / July 30: New
- **Night Sky Events** [*Held at arm's length, the width of your fist is 10° and the width of your index finger is 1°. The width of a full Moon is 1/2°.*]
July 1 Fri.: The Moon is new produces a partial solar eclipse that won't be visible in the U.S.
2 Sat. evening: The crescent Moon is 6° to the lower left of Mercury near the WNW horizon soon after sunset.
5 Tue. morning: Mars is 5° to the upper left of the slightly brighter star Aldebaran very low in the ENE at dawn.
7 Thu. evening: The Moon is 8° to the lower left of Saturn in the WSW.
8 Fri. evening: The Moon is at 1st quarter.
12 Tue.: Neptune completes its first orbit of the Sun since it was discovered in 1846; one Neptunian year equals nearly 165 Earth years.
15 Fri.: The full Moon is called Hay Moon and Thunder Moon.
20 Wed. evening: Mercury is at greatest elongation 27° east of the setting Sun.
23 Sat. morning: The 3rd quarter Moon is 8° to the left of Jupiter.
27 Wed. morning: The crescent Moon is 3° to the upper right of Mars low in the ENE.
30 Sat. morning: The Delta Aquarid meteor shower peaks with no Moon interference.
30 Sat.: The Moon is new, for the second time this month.
- **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: Mercury (W, very low), Saturn (SW)
Mornings: Venus, Mars, Jupiter (all in the E)
* *Mercury*, spending most of July low in the west in the early evening, appears highest above the setting Sun around mid-month.
* *Venus*, ending this year's stint as the "morning star," rises only an hour before the Sun early in the month and is virtually lost in the Sun's glare by month's end.
* *Mars* is rising well before the Sun and is daily climbing higher in the eastern morning sky.
* *Jupiter* rises several hours before sunrise and is easily the brightest object in the eastern sky before dawn.
* *Saturn* well up in the southwest in the evening sky, will soon be setting by midnight.
- **Constellation of the Month**
Scorpius the Scorpion is one of the few constellations that actually look somewhat like what they are supposed to represent in the night sky. Facing south soon after dark, look for a large fish-hook shaped pattern fairly low with a bright reddish star at the upper right end. That red star, Antares, is the scorpion's head; the stars to its upper right are its pinchers. Its body winds downward to the left before curling up to form the tail; at the end of the tail are two close stars, the brighter of which is Shaula, the scorpion's stinger. If you're fortunate enough be viewing from dark skies, note that Scorpius is seen against the glow of the Milky Way which is rising from the horizon toward the upper left.

In Greek mythology it was the duty of Scorpius to sting and kill Orion the Hunter who had offended one of the gods with his overly macho behavior. Another of the gods friendly to Orion in return killed Scorpius. Both were then placed in the sky by their respective guardian gods. But in a moment of rationality, the gods agreed they didn't

want Orion and Scorpius fighting throughout eternity, so Orion was placed in the winter sky and Scorpius in the summer sky. As the Greek philosopher-poet Aratos of Soloi (c. 310 - 245 BCE) wrote, “When the Scorpion come, Orion flies to the utmost end of earth,” thus they are never in the sky at the same time. (Humm...that might be a strategy worth considering here on Earth. Let's see, would the Democrats or the Republicans get the summer or winter?)



- **Antares, not Mars**

Antares, the bright reddish star representing the head of Scorpius the Scorpion, is a red giant nearing the end of its life. Situated 600 light years away, Antares is vastly larger than our Sun, weighing in at 15-18 solar masses. Its diameter of 800 Suns means Antares, if it was at the center of our solar system, would swallow the four innermost solid planets – Mercury, Venus, Earth, and Mars – leaving only the four gas giants – Jupiter, Saturn, Uranus, and Neptune. When our Sun nears the end of its life, as all stars eventually do, it will expand and consume the inner three planets – and yes, that includes us. But since we're talking 5 billion or so years down the road, don't quit school or cash in your IRA.

According to most interpretations, the star's name comes from ancient Greece and means “not Ares,” “rival of Ares,” or “anti-Ares,” referring to Ares, the Greek god of war. (When the Romans later adopted Greek religion, the god of war was renamed Mars.) Since Antares is situated on the ecliptic – the path of the Sun, Moon and planets – the planet Mars regularly passes near Antares, and as they appear similar in brightness and color, the name makes sense to avoid confusing not-Mars with the real Mars.

- **Year Half Over.** The midpoint of the year occurs July 2 at noon, local standard time.

- **Farthest from Sun.** July 4 Earth is at aphelion, its farthest point from the Sun in its elliptical orbit. With an average distance of 93 million miles, the July distance of 94.5 million miles is 3.4% more distant than when Earth is perihelion, its nearest point to the Sun, in early January. (In case you're wondering, that small variation has very little effect on Earth's surface temperature.)
- **Astro Milestone.** July 20 is the 42nd anniversary of the 1969 Moon landing, when American astronauts Neil Armstrong and Buzz Aldrin became the first humans to land and walk on the moon.



- [NASA photo: Astronaut Neil Armstrong photographs Astronaut Buzz Aldrin as Aldrin becomes the second human to set foot on the Moon -- second only to Armstrong.]
- p.m. See www.centexastronomy.org for more information.

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

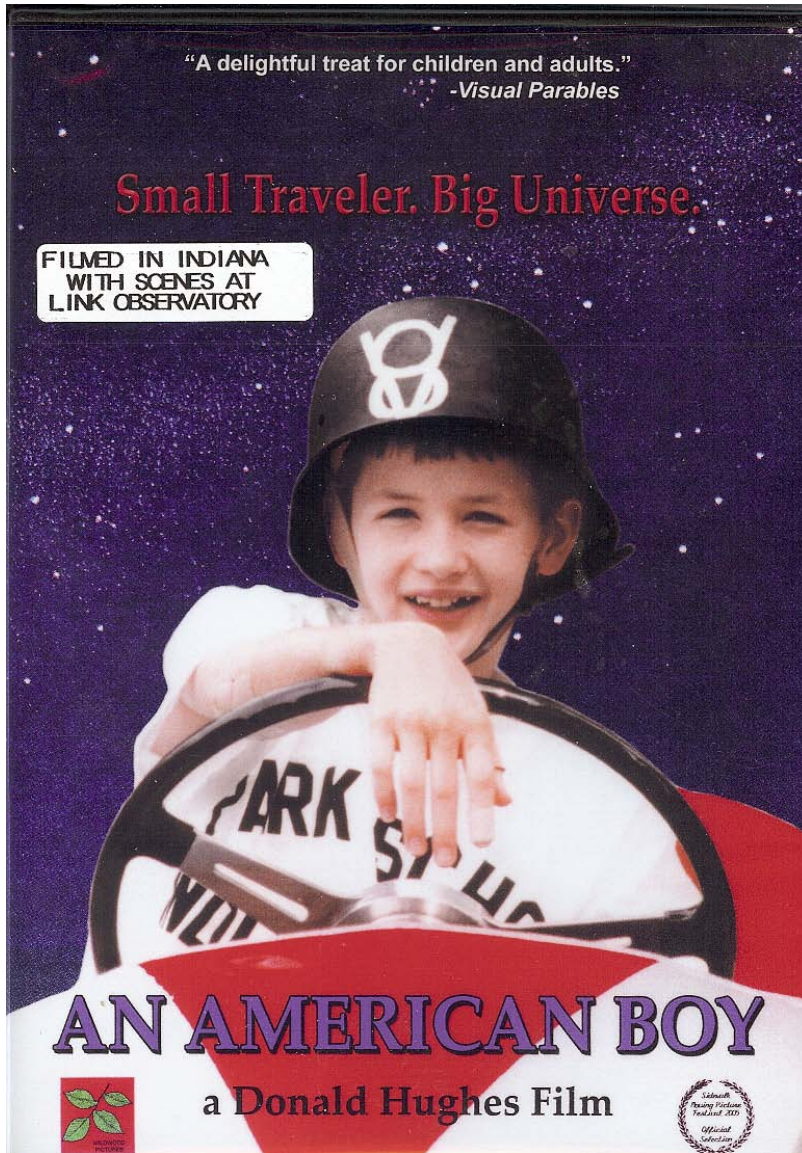
For Sale

DVD OF "AN AMERICAN BOY" AVAILABLE FOR
SALE AT GOETHE LINK OBSERVATORY

For the those of you new to the Society or perhaps were unaware of this story, "*An American Boy*", produced by Wildwood Pictures & directed by Donald Hughes, retells the story of his childhood days and looks at Indianapolis in the late 1940's and includes a recreated visit to the Goethe Link Observatory, where Donald (a schoolmate of Goethe Link, Jr.) "**Meets the Universe!**" This happened in 1947 – the year before the observatory was given to Indiana University.

These DVDs are available for \$10 each and were donated to the IAS by Mr. Hughes. All the proceeds from their sale will be used to fund the "36-inch Telescope Rebuilding Project". See Tom Borlik or any

IAS Officer to purchase one.



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
- * 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 \$450.00 – 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 –July 26, 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

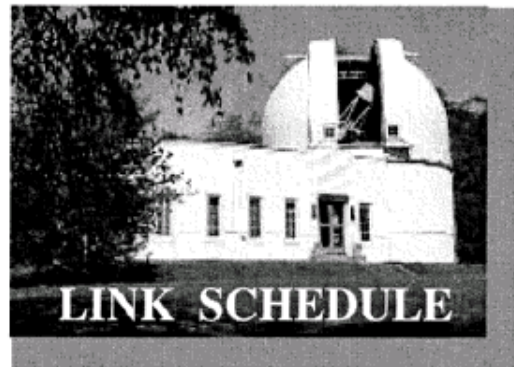
2011 Calendar of Meetings

	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	1 Oct	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**

July Calendar, 2011

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

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