

Houston Astronomical Society

GuideStar



August, 2006

At the August 4 meeting...

The Remote Planets 1991-2006

Richard Schmude



***Richard Schmude
returns to the H.A.S.
to talk to us about
the remote planets. If
you were at the July
meeting, you learned
from Richard Schmude***

***what's going on with Jupiter's Red
Spot Junior.***

***Also, Richard told us why have
the spokes in Saturn's rings
disappeared.***

***We're in luck because Dr.
Schmude has agreed to give
us another talk in August. He's
a great lecturer and a very
knowledgable planetary observer.
Don't miss this meeting.***

Highlights:

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HAS Web Page:

<http://www.AstronomyHouston.org>

See the GuideStar's Monthly Calendar of Events to confirm dates and times of all events for the month, and check the Web Page for any last minute changes.

Schedule of meeting activities:

All meetings are at the University of Houston Science and Research building. See the inside back cover for a map to the location.

Novice meeting: 7:00 p.m.
Mary Lockwood "Observing the Sun"

Site orientation meeting: 7:00 p.m.
Classroom 121

General meeting: 8:00 p.m.
Room 117

See last page for a map
and more information.

The Houston Astronomical Society

The Houston Astronomical Society is a non-profit corporation organized under section 501 (C) 3 of the Internal Revenue Code. The Society was formed for education and scientific purposes. All contributions and gifts are deductible for federal income tax purposes. General membership meetings are open to the public and attendance is encouraged.

Officers & Past President

President: Steve SartorH:281-370-3544
 Vice Pres: Bill Leach.....H: 281-893-4057
 Secretary: Doug McCormick.....H: 281-996-0177
 Treasurer: Bill FlanaganH:713-699-8819

Additional Board Members

Steve Goldberg.....	713-721-5077	Liaison responsibility
Don Pearce.....	713-432-0734	
Bob Rogers.....	281-460-1573	
Kenneth Miller.....	936-931-2724	
Allen Gilchrist.....		

Committee Chairpersons

Audit	Tom Blocker	
Education.....	Susan Kennedy.....	281-376-3262
Field Tr./Obsg.....	Clayton Jeter.....	281-573-1337
Novice.....	George Stradley	281-376-5787
Observatory.....	Kirk Kendrick	281-633-8819
Program.....	Don Pearce	
Publicity.....	John Missavage	
Telescope	Mike Hamlin	281-489-2926
Welcoming.....	Susan Kennedy.....	281-376-3262
	Darlene Sartor.....	281-370-3544

Ad-Hoc Committee Chairpersons

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Librarian.....	Peggy Gilchrist.....	281-443-8773
Logo Mds Sales.....	Judy Dye	281-498-1703
Long Range Plan.....	Bill Leach.....	281-893-4057
Parliamentarian	Kirk Kendrick	281-633-8819
Publ. Star Party	Richard Nugent	713-524-1993
Rice U. Coord.....	Matt Delevoryas	713-666-9428
Schedule Obs'v'ty	Steve Goldberg	713-721-5077
Texas Star Pty.....	Steve Goldberg	713-721-5077

Special Interest Groups & Help Committees

These are now listed on the inside of *GuideStar* (not every month). See the Table of Contents

Advisors

Dr. Reginald DuFour, Rice Univ.
 Dr. Lawrence Pinsky, U. of H.
 Dr. Lawrence Armendarez, U. of St. Thomas

Dues and Membership Information

Annual Dues:Regular	\$36.00
Associate	\$6.00
Sustaining	\$50.00
Student	\$12.00
Honorary	None

All members have the right to participate in Society functions and to use the Observatory Site. Regular and Student Members receive a subscription to *The Reflector*. Regular, Student, and Honorary Members receive *The GuideStar*. Associate Members, immediate family members of a Regular Member, have all membership rights, but do not receive publications. Sustaining members have the same rights as regular members with the additional dues treated as a donation to the Society. *Sky & Telescope* mag \$32.95/year, *Astronomy* mag \$29/year -- see club treasurer.

Membership Application: Send funds to address shown on outside cover of *GuideStar*. Attention - Treasurer, along with the following information: Name, Address, Phone Number, Special Interests in Astronomy, Do you own a Telescope? (If so, what kind?), and where you first heard of H.A.S.

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Special Interest Group Listing

Any member who wants specific information on a SIG listed below may call the listed individual. Also, see the "Ad Hoc Committee Chairpersons" on the inside front cover and the "Special Help Volunteers" listing (not in every issue).

Advanced.....	Bill Leach.....	281-893-4057
Comets	Don Pearce	713-432-0734
Lunar & Planetary.....	John Blubaugh	713-921-4275
Occultations & Grazes.....	Wayne Hutchison	713-827-0828
Advanced.....	Bill Leach.....	281-893-4057

Other Meetings...

Fort Bend Astronomy Club meets the third Friday of the month at 8:00 p.m. at the First Colony conference Center. Novice meeting begins at 7:00, regular meeting begins at 8:00. Web site: <http://www.fbac.org>

Johnson Space Center Astronomical Society meets in the the Lunar and Planetary Institute on the 2nd Friday of each month. Web site: <http://www.ghg.net/cbr/jscas/>

North Houston Astronomy Club meets at 7:30 p.m. on the 4th Friday of each month in the Teaching Theatre of the Student Center at Kingwood College. Call 281-312-1650 or E-mail bill.leach@nhmccd.edu. Web site: www.astronomyclub.org

August/September Calendar:



Photo by Scott Mitchell

Date Time Event

August

4	7:00 p.m.	Novice Presentation - UH "Observing the Sun" - Mary Lockwood
	8:00 p.m.	General membership meeting - UH Richard Schmude
2	3:46 a.m.	First Quarter Moon
9	5:54 a.m.	Full Moon
12	18:00	Perseid Meteor Shower Peak
15	8:51 p.m.	Last Quarter Moon
23	2:10 p.m.	New Moon
31	5:56 p.m.	First Quarter Moon

September

1	7:00 p.m.	Novice Presentation - UH "Selecting and Using My Finder" -- Bill Flanagan
	8:00 p.m.	General membership meeting - UH
7	1:42 p.m.	Full Moon
12		Moon .7 degs N of Pleiades
14	6:15 a.m.	Last Quarter Moon
19		Saturn 2 degs S of Moon
21	midnight	Moon at apogee
30	6:04 a.m.	First Quarter Moon

Check the web site:

www.astronomyhouston.org

Webmaster: Bob Rogers

siteworkerbob@hotmail.com

The Houston Astronomical Society Web page has information on the society, its resources, and meeting information.

Want your astronomy work and name on the Internet for the whole world to see? Have some neat equipment? Pictures in film, CCD, hand drawings or video format are all welcome on the page. Do you have an idea to improve the page? I'm listening. Send me Email at siteworkerbob@hotmail.com.

Special "Help" Volunteers

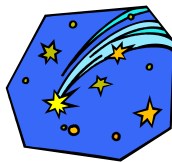
Any member who wants specific information on an astronomical topic may call special help volunteer (listed in most issues of the *GuideStar*). If you have a moderate knowledge of a special subject and would be happy to have others ask you about that subject, let the editor know and your subject, name and phone will be listed in *GuideStar* in the future.



At the HAS meeting, please remember to park across from Entrance 14.

Observations... of the editor

by Bill Pellerin, GuideStar Editor



.....

Summer has Arrived!

We're into summer

It's hot outside, even at night, and observing is something of a challenge. The nights are short, but getting longer since we've passed the summer solstice, and the mosquitoes are buzzing your ears. Perspiration is dripping onto the eyepiece, and dew is forming on the telescope optics.

Make your observing session more comfortable:

- Use insect repellant
- Bring a towel for perspiration
- Bring a small fan to your observing session
- Bring a cooler full of ice and water bottles, juices, or sodas (or a Thermos filled with coffee)
- Bring a snack - bagels, crackers, sandwiches
- Bring some clean, dry clothes -- if you perspire, change to a dry set of clothes -- it's very refreshing!
- Take breaks - Don't push it
- Take a nap or shut down when you're tired - Don't force yourself to stay up all night if you're not comfortable. This isn't an endurance contest.

Frustrations...

How many times have you asked yourself, "Am I the only person on earth who has had this problem with this software / equipment?" Usually, the answer is no, you're not the first person. There are many, many resources available to you. Here's my hierarchy of action.

Check the documentation that comes with the product. I've often found my answer in the documentation that I already have available to me. I'll admit that some documentation is poorly written, or poorly indexed, or both. If you have on-line documentation, often in the form of a .pdf (Adobe Acrobat) file you can search the file for key words. Yes, even an Acrobat file is searchable! This is a very useful capability. On a Windows PC, usually the key combination <Ctrl>-F will initiate the Find function.

Check the manufacturer's web site. Often, the site will include a 'knowledgebase' with problems that have been solved, usually by the manufacturer. Microsoft, for example has a very good knowledgebase available on line.

Didn't find it? Look for a link that says [Contact Us] or a link to file a new problem. You can type in a description of your problem and usually you'll get a response in a day or so. Some companies are better than others about responding, but I always give them the chance to solve the problem.

Although it's getting to be more and more rare, companies often have dial-in help. Sometimes it's available 24x7, sometimes not. Again, some are good and some are bad. Look for a number on the Web site or in the manual. (Once I called TeleVue and ended up speaking with Al Nagler, himself!)

Another good resource -- Yahoo (or other) groups. Go to Yahoo.com and then select groups. You can search for a group based on a key word you enter. If my problem is product oriented, I type in the product model. You'll then see a list of groups that discuss the product. I look for the one with the most members because it's more likely that I'll get a response if more people are reading the 'posts' within the group. I've found numerous solutions within these groups simply by searching the message archives. I've also posted requests for help and benefitted from the shared knowledge of others. This happened to me recently. I posted a message on a Yahoo group about a telescope mount and within a few hours had several replies and the answer to my question.

I should point out that part of the 'deal' when using a Yahoo group is that you'll provide others with the benefit of your experience as well. If you see a question, and you know the answer, reply!

Try a Google search. It can take time to dig through the results you get. If you get too many results, add more key words to your search; if you get too few results, take away some of your key words.

Try the HAS mail-list; or ask another HAS member. An email sent to the HAS mail list goes to everybody who has signed up. Our friend, George Stradley sent me some instructions for setting up a connection between astronomy software and a telescope.

Never give up. It may take a while to get to your answer, but dogged determination will pay off. You never know how you'll get to the answer.

Until next time...

clear skies and new moons!

..Bill

billpellerin@sbcglobal.net

Observatory Corner

By Kirk Kendrick, Observatory Chairman



With 2006 half over, the Observatory Site continues to be a great place near Houston to observe and to practice your do-it-yourself skills.

For the last half of 2006, we have a few key work items to handle:

- Complete the trim on the bunkhouse
- 2006 Annual Picnic – Plant a new time capsule!
- Additional large observing pads (2-3)
- Additional trailer sites (4-6) around north and west sides of field
- New outbuilding to serve as a workshop and storage for a larger tractor

For those do-it-yourself folk, the electronics in the bathroom and observatory building are aging, and starting to show it. The bathroom lock on the east door (closest to the exit road) has been refusing to let people in – sometimes it works perfectly, while at other times it denies all access. Every time we try to diagnose the problem, the lock (of course) works perfectly. I want to thank Amelia Goldberg and Allen Gilchrist for keeping me apprised of the issues. The short-term plan is to spend some time diagnosing the electronics...if this fails...the remedy is to convert the door lock to a simple deadbolt lock, and limit the electronics to lights only (without the door lock).

While diagnosing the bathroom electronics, the keypad systems on the observatory building and metal building decided to also lock us out. And, to make things worse, the satellite system chose that moment to refuse to work...limiting our access to schematics and troubleshooting data on the entry system. After resetting, restarting, powering down, and re-powering the satellite dish, Bob Rogers and Dana Lindstrom managed to get the link operational...allowing me to download the diagnostic information for the CORBY door entry systems. While diagnosing the problem, a faulty voltage regulator was “fixed” by accidentally shorting the input voltage to ground. So if you are wondering, you CAN defibrillate a voltage regulator!

As of last weekend, the satellite system, the observatory, and the metal building electronics were working flawlessly...but the bathroom door chose to lock us out again.

Many continued thanks to our groundskeepers – Ed Szczepanski, Bob Rogers, and Ken Miller. The grass at the site continues to look great! And the easy access to the entrance road makes night-time access much easier than a few years back.

An opportunity has emerged allowing us to clear brush along the roads on the north end of the field to add new trailer sites and an outbuilding -- One of our members has access to a dozer (and driver!). After we complete site layout and drainage planning, we hope to break ground this winter. With a little luck, we'll have a new outbuilding surrounded by new trailer sites.

Last but not least, Amelia Goldberg has volunteered to be Picnic chairman (THANK YOU, AMELIA!!!). We are looking for a few volunteers to help us with various tasks from welcoming visitors at the front gate to helping man the observatory for a night of viewing. Amelia and your site supervisors (Ken Carey or Dana Lindstrom) for the month of September are waiting for your call!

I hope to see some of you out observing (or just coming to the site to see the Bunkhouse!).

Clear skies!

Kirk

Just Looking

A *GuideStar* Historical article submitted by Clayton L. Jeter

The History of Robert Todd Lincoln's Telescope and Observatory

As a young man, Robert Lincoln became interested in mathematical computations and science, resulting in his interest in astronomy. He dreamed of having his own astral observatory where he could pursue this hobby. Like his father, Abraham



Photo by Guy Nason

Lincoln, the professional surveyor, Robert was familiar with the operation of a transit for land surveys. Soon after arriving at Hildene, he surveyed and selected a high point of land for his observatory. Within 80 yards, northeast of the house, it offered a clear and unobstructed celestial view. His calculations located the spot as 43 degrees, 8 minutes, and 30 seconds, North Latitude.

The observation dome was constructed on a concrete base, fourteen feet in diameter and

six inches thick. On top of the walls, a rail in four sections was fabricated from iron, two-and-one-half inches wide. This was secured to wooden strips on the wall with large screws counter-sunk into the carefully planed rail.

The heavy, 12 foot dome is so well balanced that it can be easily rotated 360° by one person, using the metal bars attached to its base. Movement of the dome allows the two foot wide shutter to be precisely positioned. The original canvas-covered, wood dome was constructed by the Eagle Square Company in nearby Shaftsbury, Vermont, now a branch of Stanley Tools Company. The cost in June of 1908 was \$182.16 and it was transported to Hildene from Shaftsbury by horse-drawn wagon.

The original telescope soon proved to be inadequate for Mr. Lincoln's purposes, and he commissioned the building of a larger, six-inch refracting telescope by the Warner and Swasey Company of Cleveland, Ohio. The completed instrument, including the lens,



Photo by Guy Nason

ground by the John A. Brashear Company of Pittsburgh, Pennsylvania, cost \$1,920.00. When it arrived at Hildene in the summer of 1909, several courses of brick had to be added to the observatory's walls to accommodate the larger instrument.



Photo by Anu Poldes

Two years after Mr. Lincoln's death in 1926, Mary Harlan Lincoln donated the telescope and the funds necessary to build a replica of Hildene's Observatory to Burr & Burton Seminary, the local secondary school. Hildene's empty observatory was then used as a smokehouse and a storage

facility for several decades before falling into disrepair.

In 1984, Lila Acheson Wallace awarded Friends of Hildene, Inc. a challenge grant of \$7,500.00

Continued...

I'm always looking for interesting astronomical history items on the Internet. As most of you know, I love to tinker with telescopes and a lot of my reading concerns telescopes and their place in astronomy history. I've decided to write a monthly historical article in our *GuideStar* that is entertaining and informative for you to read. This column will not only cover observers, telescopes, and accessories, but will be looking back to amateur astronomy's past. I hope you enjoy this month's feature about Abraham Lincoln's eldest son, Robert Todd Lincoln and his domed observatory that is still in use today.

See you next month

.... Clayton L. Jeter

Just Looking... from previous page

for the observatory's restoration, conditional on Hildene's raising an equivalent amount. The ensuing fund-raising campaign was co-chaired by Dr. and Mrs. Clifford Harwood of Manchester. Under their guidance and thanks to a leadership gift of \$1,500.00 from the James Talcott fund, facilitated by Suzanne and William Melhado of Dorset, the goal was exceeded in less than a month.

Following the restoration of the observatory, the Trustees of Burr & Burton Seminary generously placed Mr. Lincoln's telescope on loan to Hildene. In 1992, they formally donated to Friends of Hildene, Inc., and this historic instrument which now rests permanently in its first home. We are profoundly grateful to the Trustees of Burr & Burton Seminary for their generosity and for their 64 year stewardship of the telescope.

In the autumn of 2002, the telescope was refurbished on its original mount by Claudio Véliz Architect (CV A), a firm specializing in astronomical as well as traditional architecture projects. The telescope was cleaned, the brass polished, the mechanisms realigned and lubricated, and attachments were re-established so the telescope could be moved smoothly, if manually, through the sky (Hildene staff are currently searching for the original mechanical drive that, once installed, would allow the scope to track objects across the sky). CV A also directed expert subcontractors to attend to telescope element specialties: The optics were completely restored by D&G Optical, in Pennsylvania. The lens cover was made exactly to original specifications by Kate Connors of Cattlepress Leather. The resulting telescope is now fully functioning and available to enhance the public's enjoyment of the Vermont skies, amongst the darkest in the entire northeast United States.

February of 2003, the Hildene Astronomy Club was formed. Members of the club are now taking on the care and use of the telescope and observatory. Organized 'Star Parties' open the observatory to the public.

This article written by and used with permission of the following organization.

***Friends of Hildene
Astronomy Club
P.O. Box 377
Manchester, VT 05254***

***Douglas Harrigan
Chairman, Hildene Astronomy Club***

The Houston Astronomical Society appreciates the opportunity to republish this article for our members.

Shallow Sky... from page 9

the fusion product, they settled on the name helium.

- The luminosity of Vega is equal to 54 of our suns. Remember that luminosity is a measure of the total energy given off by a star.
- Vega is a young star, less than 400 million years old; our Sun, by comparison is about 5 billion years old, and we expect that our sol will be around in more or less its current state for another 5 billion years. Since Vega is so young, it is less likely that there are inhabited planets surrounding it. There just hasn't been enough time for a civilization to emerge.
- Vega has the honor of being the first star to be photographed. It was done in July of 1850 at Harvard University.

Bonus objects --

There are at least three double star systems worth looking for while you're in the neighborhood.

- Epsilon Lyr -- the famous 'double-double' consisting of four stars. Two close sets of close doubles. Just over 2" of space between the close doubles. This is a beautiful set of stars.
- Zeta Lyr -- The star in the trapezoid that's closest to Vega. The separation is 43.8" and the magnitudes are 4.3 and 5.6. This is a very pretty double.
- Beta Lyr -- the star in the trapezoid just south of Zeta Lyr. The primary star shines at magnitude 3.6 and the secondary is a 6.7 magnitude star. The separation is 46". Extra credit -- this star is also a variable!

I can easily see these from my patio, 3 miles from downtown Houston. Check them out.

Map from TheSky by Software Bisque.

Astronomical League Convention

August 4-5 - Dallas

Howdy!

You are invited to Texas for ALConExpo 2006, the Astronomical League's annual grand gathering of amateur astronomers!

ALConExpo 2006 will take place on August 4-5, 2006. The Texas Astronomical Society of Dallas is the host society for ALConExpo 2006, this year's Astronomical League Convention. Convention activities, including the traditional Star-B-Que and a public outdoor star party, will take place on the campus of the University of Texas at Arlington, located in the heart of the Dallas/Fort Worth Metroplex.

Convention headquarters will be the E. H. Hereford University Center. The College of Science at UT Arlington is the on campus sponsor. The Astronomical League's Annual Council Meeting will be held in the University Center on August 3, 2006.

Visit the ALCON Expo 2006 website to register online:

www.alconexpo.com

Or download your registration form from the website:

www.alconexpo.com/pdf/AlconRegistrationForm2006.PDF

and mail to:

ALCon/Expo 2006 Registration
Post Office Box 25162
Dallas, TX 75225

Great Speakers include ...

David J. Eicher, Editor, *Astronomy Magazine*

Scott Roberts, Vice President, Brand Community for Meade Instruments Corporation

Robert L. Gent, President, Astronomical League; and Vice-President, International Dark Sky Association.

Dean W. Chandler, President, Central Texas Astronomical Society

Dr. James Horwitz, Chairman of Physics, UT Arlington

Jason Ware, Astrophotographer Extraordinaire, Galaxy Photography

... and many others!

Housing

On Campus Accommodations are available in Arlington Hall. Reservations and Payment MUST be received by May 29, 2006

Single Room: \$50 Per Person Per night - 2 Twin Beds

Double Room: \$40 Per Person Per Night - 3 Single Beds per Suite, Shared Bath

Hotel Accommodations

Accommodations are available at a special rate of \$89.00 per night at the following Marriott hotels:

SpringHill Suites: 817-860-2737
www.marriott.com/dfwsh

TownePlace Suites: 817-861-8728
www.marriott.com/dfwta

Phone Bookings: Contact either hotel directly or call toll free 800-932-2198. You must ask for ALConExpo 2006 Group Rate to receive the special rate.

Hotel reservations must be made by July 5, 2006!

For complete information on ALCON-Expo 2006, visit our website: www.alconexpo.com

Come to Texas for ALConExpo 2006. While you're here ...

Explore the Lone Star Sky!

Vega

by Bill Pellerin, GuideStar Editor

Object: Vega

Class: Star

Magnitude: 0.3

R.A.: 18h 36m 57s (year 2000 coordinates)

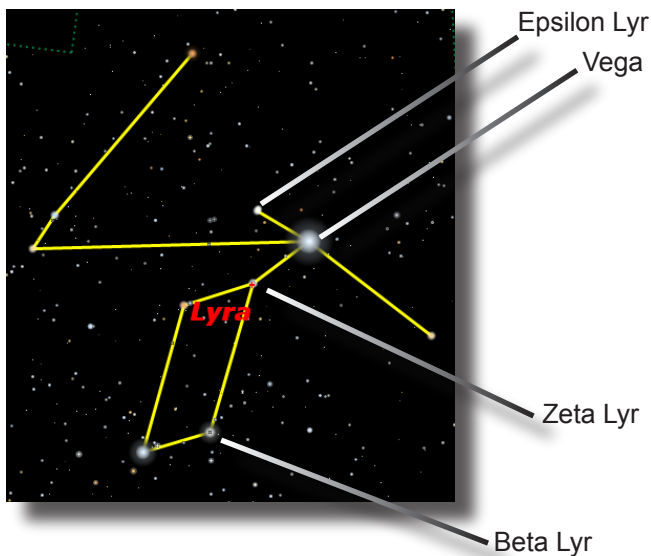
Dec +38 47' 01"

Constellation: Lyra

Why this object is interesting:

Last month's object, 61 Cyg requires a dark night, binoculars, or a small telescope to see. This month's object requires none of that. You can see it without optical aid, on the night of a full moon, from downtown (or near downtown) Houston.

Vega is the brightest star in Lyra, so it's also known as Alpha Lyr. Overall, it's the 5th brightest star in the sky behind Sirius, Canopus, Rigel, and Arcturus. (I've not included the Sun, which, of course is brighter than all these.) Arcturus shines at -.04 and Vega shines at .03. Remember, the smaller the number the



brighter the object. So, if you're out at night this time of the year and want to know what a 0th magnitude star looks like, look up at Vega.

Arcturus is still 35 degrees above the western horizon at 10:00 p.m. on August 15th while Vega is about 80 degrees above the horizon at that time. Compare the two stars and see if you can see the difference in brightness. The difference is less than .1 magnitude, so this would be difficult. Also, Arcturus is a 'K' (reddish) star and Vega is an 'A' star (white or blue-white), so the color difference might throw you.

If Vega were the same distance from us as Sirius, it'd outshine Sirius by a full magnitude, but Vega is about 25 light years away (what were you doing 25 years ago?), and Sirius is only 8.6 light years away.

Fun facts about Vega;

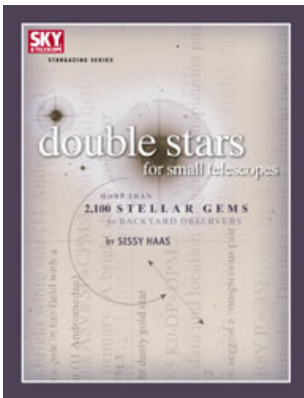
- Vega has a disk of dust surrounding it, and there may be a solar system in formation around the star. This was identified in 1984 by the Infrared Astronomical Satellite.
- While Polaris is today's 'north star', it wasn't always so (and it won't always be so). The earth wobbles on its axis so that the polar axis of the earth traces out a circle in the sky. It takes about 25,000 years to complete a cycle in the sky, so you and I won't see any other star become the pole star. But 12,000 years from now, the north pole will point close to Vega, and Polaris will no longer be the 'north star'
- In the book *Contact* by Carl Sagan, an advanced civilization is living on a planet that's orbiting Vega. To demonstrate to us earthlings that they're out there, they capture one of our television signals and beam it back at the earth. Since the round trip time is about 50 years, the beamed-back signal is 50 years old, so we're watching WWII images coming back at us. There's a movie version of the story too, starring Jody Foster, and worth seeing.
- Vega, Deneb, and Altair form the Summer Triangle of stars. All of these stars are easy to see even if the sky conditions aren't perfect.
- Vega shines by fusing hydrogen into helium, the most common process by which stars shine. You may be interested to know that when it was discovered that the result of hydrogen fusion was helium, the element was unknown. Since the Sun was often called Helios, and since scientists at the time didn't know what to call

Continued on page 7...

Double Stars for Small Telescopes

Review by: Bill Pellerin, GuideStar editor

It is a pleasure for me to tell you about the newly published *Double Stars for small telescopes* by Sissy Haas, published by Sky Publishing. If you've been a reader of *Sky and Telescope* magazine for a while you know that from time to time you'll find an article by Sissy Haas on double stars that you can see with a small telescope.



Sissy's love of double stars virtually leaps off the page and makes you want to drag your telescope into the back yard and observe some of these gems. I remember the first time I decided to give some of these a try (some 15 years ago, or so). I was out at the site with my 14.5" Dob, and with my *Sky and Telescope* magazine at hand. Inside the magazine was one of Sissy Haas' articles on dou-

ble stars. I was delighted to find and observe these jewels of the sky and I've been a fan of Sissy's work ever since. I always considered an issue of *Sky and Telescope* with one of her articles a special treat.

I pre-ordered this book from Sky Publishing, and I hoped to get it before the Texas Star Party (at the end of April), but it didn't show up until recently. No harm done, though as the stars will be waiting for me when I'm ready.

This book is not a collection of Sissy's articles, although such a collection would be just fine with me. It's a complete re-work of her material. The double stars are organized by constellation and are described in tables that include position, name, position angle, separation, magnitude, comments and more. All but the comments are the information you need to find and recognize the double star, but it's in the comments where Sissy tells you her impressions of the double. About Albireo (beta Cyg), Sissy says, "This wide couple is a stunning pair of deeply colored stars, brilliant citrus orange and vivid royal blue...".

You and I may not see Albireo this way, exactly, but when we read that description we can easily imagine what a treat it is to see this star pair.

With 2100 double stars to look at you will be observing for a long time before you see all the objects in this list. Not all the stars are visible from Houston, some are too far south.

The book begins with a short chapter "Introducing Double Stars" which includes a table showing characteristics of the closest doubles you should expect to see with various telescope sizes and taking into account magnitude differences. For example, with my 100 mm telescope (about 4 inches), I should be able to see double stars separated by 1.2" if they're the same magnitude and I should be able to see stars separated by 2.6" if the magnitude difference is 4.

Then, there's a short section describing a few showcase doubles. If you're new to double stars, or you simply want to impress the neighbors, these are the target stars you want.

Note that there are no sketches or photographs of double stars in the book. It's a catalog of double stars. Also, there are no finder charts. You'll either have to find them on a map yourself (using RA and Dec coordinates) or let your computer controlled telescope find them for you. Truth is, I've never seen a drawing or a photograph of a double star that even approaches how it looks visually.

Time Capsule - 2030 - Update!

By Steve Goldberg

Plans are under way for the Annual Picnic and the Time Capsule burying. Think about what you would like to see in the year 2030. The contents of the first capsule were mainly about the HAS and the Columbus site. For this capsule we want to focus on the Members of the HAS, of course other things, too.

Here is a "partial" list of things we are planning to put in the capsule:

- Information about Ed Szczepanski's Comet
- Information about Larry Mitchell's Supernova
- Information about Jay McNeil's Nebula
- HAS volunteers & committee chairman for TSP
- Members that have been officers of national organizations
- Copy of Universe Sampler
- Observing Certificate recipients for Astronomical League observing programs
- Current roster
- History of HAS

If you would like to donate something to be placed in the capsule, please bring it to this meeting, or contact Jayne or me. We would like some "objects" besides paper and pictures. It doesn't have to be astronomy-related. As our President said at the last meeting, when they open the time capsule we want them to say: What is this?? Remember, it must fit within a 6 inch pipe.

So, if you have something that you want to put in the time capsule, please contact either Jayne Lambert at jdlam-bert@houston.rr.com, or me at goldberg@infohiwy.net.

We would like YOU to think about writing something to the membership of 2030. What are your predictions for astronomy, exploration or where the club will be in 2030, or other thoughts or comments that would be of interest in 24 years.

Red River Star Party

Sept 21-24

The Red River Astronomy Club will host our Second Annual ArkLaTex Star Party beginning Sept. 21 - 24, 2006 near Nashville, Arkansas. Of course, the main attraction is the dark sky. This years presentations will include a Mission Specialist (name to be announced by AAS), a Cosmochemist, a presentation on the mysterious lights of Gurdon, Arkansas and a workshop on image processing by a panel of experts.

Rex's Astro Stuff will have a wide variety of accessories available for sale. We offer free camping, observing field power for laptops and scopes, a shower, T-shirts, swap meet, bottomless coffee pot, cocoa and snacks plus our now famous ArkLaTex give-away. Thris's BBQ will have a catering trailer on site. What has become the hallmark of the star party is the relaxed and friendly atmosphere. 4 days / 3 nights.

For details / registration: rrac.org

How can I learn more about the Astronomical League?

Amateur astronomers from across the country benefit from perusing the many pages of the Astronomical League's website, www.astroleague.org. Naturally, this is the place to go if you're looking for information about upcoming events and League news. But there is so much more...

Want to learn all about one of the great League observing programs? Go to www.astroleague.org/observing.html.

Do you know of a worthy candidate for one of the many League awards? Look at <http://www.astroleague.org/al/awards/awards.html>.

Are you interested in buying a particular book about our fascinating hobby? Then go to www.astroleague.org/al/bookserv/bookserv.html.

There is even something to help your club function better. Try www.astroleague.org/al/soc aids/socaidid.html

Make the most of your Astronomical League membership! **To find out more about what the Astronomical League offers you, why not log on to www.astroleague.org today?**

Membership Renewals...

Your membership is renewable on January 1 of each year.

Total yearly dues are \$36.

If you paid your dues any time in 2005, your payment for 2006 is due as of January 1, 2006. New members joining in 2006 will pay only for the months remaining in the calendar year.

Magazine subscriptions can be renewed at any time and the renewal does not need to be synchronized with your HAS dues.

Membership in the Houston Astronomical Society is one of the great bargains in Astronomy. For a regular membership of \$36 you get the opportunity to support an active and growing organization, you get the monthly *GuideStar* newsletter, and you get access to the outstanding H.A.S. observing site near Columbus, Texas. (You must attend an orientation, given monthly, to use the site.) And, after two months of membership you can borrow, at no charge, one of the Society's loaner telescopes. It's the best deal in town, we think. Please renew your membership when it expires.

Encourage other astronomy enthusiasts to join the organization as well. It's a great group.

Thanks!

Want Ads

FREE: 8" mirror grinding kit with two glass blanks.

Everything you need to complete a mirror for a new telescope project. Sweat and muscle are not included. Pick up only.

Call Clayton at....713-569-7529

For Sale: Orion Short Tube 80

Orion ShortTube 80mm telescope - Optical tube with astronomical diagonal, carry bag, red-dot finder, magnifying finder, upgraded focusing knobs, two eyepieces. All for \$150. Bill Pellerin billpellerin@sbcglobal.net

For Sale: C8 / 17.5" Newtonian

1977 vintage orange-tube C8 with *excellent* optics. Original spur-gear drive supplanted by highly accurate Saulietis worm-driven HDPE gear. Includes Lumicon NGC Sky Vector digital setting circles with 12,000 object database. For autoguided imaging, system includes a modified Meade drive corrector for dual-axis autoguiding utilizing ST4-compatible inputs. Employs a Meade tangent-arm DEC drive motor. Includes field tripod and equatorial wedge. Other accessories TBD. See my website for many images made with this system over the past 10-15 years.

Perfect for imaging or visual star parties. 17.5" f4.5 Newtonian telescope with highly accurate microprocessor-controlled, stepper-based alt-az drive system with focal plane rotator. Designed and built by Andy Saulietis and the owner. Accepts ST4-compatible inputs for autoguiding. Mechanical and calibration work done by the owner to optimize system accuracy for autoguided CCD imaging. Original 1981 Coulter mirror refigured to smooth 1/8th-wave surface by Sky Optical in late 80's. Primary and secondary recoated with enhanced coatings group by PAP in early 90's. Optics in excellent condition. 80mm f5 finder. Breaks down to numerous major pieces for transport. With modest effort, can be a traveling scope, but better as a semi-permanent observatory. See my website for many images made with this system over the last decade.

Price negotiable. For pickup/delivery, maybe can meet you halfway.

Call 281-482-5190 or E-mail Al Kelly.

For Sale: SCT Denkmeier II x PowerSwitch binoviewer and Eyepieces

Excellent condition, original aluminum case, along with a pair of TeleVue Nagler 6 7mm eyepieces and a pair of TeleVue Panoptic 24mm eyepieces, all four eyepieces in their original TeleVue boxes.

New the set retails for \$2500. Will sell the set for \$1500. All pieces are in excellent condition and little used. I will also toss in my 3 year old LX90, also in excellent shape, for an additional \$750, for a great binoviewer set up. The LX90 still has its original packing carton, as well as a Telrad finder and an 8x50 finder attached. I will toss in for free a Meade electronic focuser and an eyepiece tray that attaches to the LX90 base.

I can be contacted by telephone at 713 851 2861 or email

(james.morse@exxonmobil.com). I live and work in Houston and would prefer a hand delivery, but am willing to send by post. - Jim Morse

For Sale: Celestron Nexstar 8

Like New Condition...Celestron Nexstar 8, Used only 2 times in back yard. Some extras include Solor filter, 1 1/4" star diagonal, 40 mm multi-coated nexstar plossel, 8-24 mm Z00 eyepiece, variable polarizing filter, 2X multicoated Barlow. \$ 850.00 Jack DeNina, Willis, Texas 936-856-0704, jjack9485@cs.com

For Sale: 20" Obsession

I can no longer handle the weight, or trips up the ladder, and must sell the 20" Obsession. I would prefer this to be a Texas or Oklahoma deal in which both parties could drive a reasonable distance for the exchange.

Included with the basic telescope are:

1. The JMI NGC Max digital circles (never used, but the light comes on).
2. A Protostar diagonal holder with heating wiring attached (also never needed),
3. A 6-foot customized ladder with grab bar and intermediate steps up to 3 feet.
4. A battery "shelf" that bolts into the handlebar bushings.
5. An Astro Systems Scope Coat.
6. TelRad finder.
7. Lots of stainless replacements on the hardware.
8. Obsession light shroud.
9. JMI focuser upgraded to compression ring version drawtube.

The mirror is Galaxy, recoated by Galaxy with 96% coatings in 1998 and coatings remain in excellent condition. My 71-year old eyes saw one galaxy rated at 16.3 mag by Megastar at TSP and lots in the 15.7 mag. range.

The truss tubes have been equalized as best as possible so that when assembled in the field, collimation is never far off. There are about 18 pounds of fitted counterbalance weights, needed to accommodate an 80 mm finder. This finder is not a part of the sale, however. The UTA round box has a custom lid that can substitute as a table top in the field.

There are a few battle scars as this is a 1993 model,.

Overall, this is an excellent telescope, in great condition, and has been a joy to use.

I would like to get \$5,100 for everything listed above, based on Midland pickup, or \$5,250 for pickup at some intermediate point. The new replacement values for the above is in excess of \$7,000. Contact Don Judd at dkjudd@nts-online.net

For Sale:

Celestron Sky Master 11 X 80 Astronomical Binocular with original carrying case. Celestron Photographic Tripod (crank up) in original box. Both items purchased new and gently used a few times. \$250 or best offer. George Sellnau 713-978-7774, gsellnau@aol.com

Continued on Page 16...

Celebrating 40 Years of Intent Listening

By Diane K. Fisher

In nature, adjacent animals on the food chain tend to evolve together. As coyotes get sneakier, rabbits get bigger ears. Hearing impaired rabbits die young. Clumsy coyotes starve. So each species pushes the other to “improve.”

The technologies pushing robotic space exploration have been like that. Improvements in the supporting communications and data processing infrastructure on the ground (the “ears” of the scientists) have allowed spacecraft to go farther, be smaller and smarter, and send increasingly faint signals back to Earth—and with a fire hose instead of a squirt gun.

Since 1960, improvements in NASA’s Deep Space Network (DSN) of radio wave antennas have made possible the improvements and advances in the robotic spacecraft they support.

“In 1964, when Mariner IV flew past Mars and took a few photographs, the limitation of the communication link meant that it took eight hours to return to Earth a single photograph from the Red Planet. By 1989, when Voyager observed Neptune, the DSN capability had increased so much that almost real-time video could be received from the much more distant Planet, Neptune,” writes William H. Pickering, Director of JPL from 1954 to 1976, in his Foreword to the book, *Uplink-Downlink: A History of the Deep Space Network, 1957-1997*, by Douglas J. Mudgway.

Mudgway, an engineer from Australia, was involved in the planning and construction of the first 64-m DSN antenna, which began operating in the Mojave Desert in Goldstone, California, in 1966. This antenna, dubbed “Mars,” was so successful from the start, that identical 64-m antennas were constructed at the other two DSN complexes in Canberra, Australia, and Madrid, Spain.

As Mudgway noted in remarks made during the recent observance of the Mars antenna’s 40 years of service, “In no time at all, the flight projects were competing with radio astronomy, radio science, radar astronomy, SETI [Search for Extra-terrestrial Intelligence], geodynamics, and VLBI [Very Long Baseline

Interferometry] for time on the antenna . . . It was like a scientific gold rush.”



In 1986 began an ambitious upgrade program to improve the antenna’s performance even further. Engineering studies had shown that if the antenna’s diameter were increased to 70 m and other improvements were made, the antenna’s performance could be improved by a factor of 1.6. Thus it was that all three 64-m DSN antennas around the world became 70-m antennas. Improvements have continued throughout the years.

“This antenna has played a key role in almost every United States planetary mission since 1966 and quite a few international space missions as well. Together with its twins in Spain and Australia, it has been a key element in asserting America’s pre-eminence in the scientific exploration of the solar system,” remarks Mudgway.

Find out more about the DSN and the history of the Mars antenna at <http://deepspace.jpl.nasa.gov/dsn/features/40years.html>. Kids (and grown-ups) can learn how pictures are sent through space at http://spaceplace.nasa.gov/en/kids/phonedrmarc/2003_august.shtml.

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



For over 40 years, the “Mars” 70-m Deep Space Network antenna at Goldstone, California, has vigilantly listened for tiny signals from spacecraft that are billions of miles away.

Remember --

All HAS memberships are due for renewal in January, 2006. Our membership year now corresponds to the calendar year.

Mail your dues to the address on the back page of this *GuideStar* or bring

Minutes

the July, 2006 Meeting of the

Houston Astronomical Society

The July, 2006 meeting of the Houston Astronomical Society was called to order at 8:04 p.m. by HAS President, Steve Sartor.

General Announcements:

- Steve Sartor welcomed everyone to the meeting.
- Steve recognized and welcomed the four guests present at the meeting.

Announcements:

- Steve Sartor announced that we are collecting items for the HAS time capsule, scheduled to be replanted at the society's observing site in Columbus at our annual picnic.
 - Steve gave several examples of items already on the list to be interred.
 - He mentioned that most of the prospective contents identified so far are paper: magazines, documents, pictures etc.
 - We would like to see a few "things" included such as eyepieces, observing aids/tools, or other items that will fit in the 6" diameter PVC tube.
 - Steve also announced that at the August meeting, 3x5 index cards will be distributed to attendees and they will be asked to write their guess as to what the future will be like. These cards will be placed in the capsule.
- Steve Goldberg showed some examples of items going into the HAS time capsule, including a copy of the HAS webpage on CD, an old pamphlet, and an even older book with personal notes in it.
- HAS Picnic Chair, Amelia Goldberg, announced that the HAS Annual Picnic is scheduled for September 23rd on new moon weekend. We plan to invite other regional clubs, and additional information will be made available as it develops.
- Tony Settles reported that astronomers have detected a type of "iron rain" on brown dwarfs. In addition, Tony mentioned observations of Saturn confirming that the spokes historically visible in the planet's B ring have indeed disappeared. Theorists continue to debate possible causes of the spokes and their disappearance.
- Don Pearce gave the Comet Report highlighting 73P/Schwassmann-Wachmann, 41P/Tuttle-Giacobini-Kresak, 71P/Clark, and P/Barnard (2006 M3). For more information on these and other comets of interest, see Don's Comet Corner on the HAS website at

<http://www.astronomyhouston.org>.

Program

Brian Cudnik introduced the featured speaker for the evening, Richard W. Schmude, professor at Gordon College in Barnesville, Georgia and Coordinator of the Jupiter Section of the Association of Lunar and Planetary Observers. Richard delivered his presentation entitled, *Jupiter: Recent Developments and Trends*. Upon completion of his presentation, Richard was presented with a gift of appreciation from the society.

Closing Announcements

- Tony Settles reported that the heat shield of the shuttle Discovery appears to be in good shape, raising optimism about a possible future shuttle mission to service the Hubble Space Telescope.
- Steve Sartor pronounced the meeting adjourned at 9:38 p.m.

H.A.S. Picnic

Our annual picnic will be held September 23rd, new moon weekend, at the Columbus site. We will bury our second time capsule during the picnic. This capsule will be opened on our 75th anniversary in 2030.

All of the area clubs are invited to join us for the picnic and a night of observing. Tents and RV's are welcome. We will furnish more details later. Save that date.

Amelia Goldberg
Picnic Chairman

Observatory Duty Roster

by Kirk Kendrick, Observatory Chairman

The site continues to be in GREAT shape thanks to the unending efforts from our chief grounds keeper – Ed Szczepanski – as well as Bob Rogers and a few other volunteers that keep tackling key jobs.

Major Projects for 2006 & 2007:

- Continued Site cleanup
- Annual Picnic – plant the new time capsule!
- Additional Camping sites with water and electricity
- Workshop & Tractor Storage building

August Supervisor TBD 281-633-8819

Jim Anderson
Peyton Barnes
Don Bates
John Blubaugh
John Chauvin
Art Ciampi
Brian Cudnik
Volunteer

FOCUS THIS MONTH
Weed eat
Poison ants
Fence repairs N & W sides

September Supervisors Dana Lindstrom 713-862-6044

Gary Delzer
Kay Sandor
George Dolson
Ken Drake
Victor Flores
Fred Garcia
Clif Goldman
Nelson Hagelgans
David Herlinger

FOCUS THIS MONTH
PICNIC!!!
Anything needed to get ready or assist

October Supervisor Michael Edstrom 281-347-7267

John Huff
Clayton Jeter
Stanley Jones
Keith Jurgens
Arnie Kaestner
David Kahlich
Volunteer
Volunteer

FOCUS THIS MONTH
Weed eat, trim trees,
Poison ants

Additionally:

Month	Prime Night	Members Observatory
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August.....	26.....	19
September....	23.....	16
October.....	21.....	14

- Please volunteer to help us keep the site in great shape! Contact Kirk Kendrick with your desires and let him know of any special skills you have that the club could leverage. Thanks!

Want Ads... from page 13

For Sale: 13.1" Colter "Odyssey"

13.1" Colter "Odyssey", 1.8 tele-vue barlow, 32mm plossl tele-vue 10.5mm Tele-Vue, 21.5mm rke Edmonds, Lumicon UHC filter, Celestron eyepiece filter set, 7 x 50 finder scope, Telerad finder, tube cap, light box and Skyatlas 2000 maps, Burnham's Celestial Handbook, vol 1,2,3., That's the details, everything for \$600.00.

E-mail: roy60@ev1.net

Phone: 713-434-2647

For Sale: Meade ETX 90EC Telescope,

and Meade tripod Used once. Includes Autostar controller. Paid \$850 new 6 months ago – no time for a new hobby. Includes all original boxes and manuals, and carrying case for scope and tripod. Before I put it on eBay, I'd like someone local to enjoy this scope. I'll take \$500 or any reasonable offer. Contact Bill at beley8@houston.rr.com.

Email your ads to Bob Rogers, our Webmaster, at siteworkerbob@hotmail.com

General Membership Meeting

The Houston Astronomical Society holds its regular monthly General Membership Meeting on the first Friday of each month, unless rescheduled due to a holiday. Meetings are in Room 117 of the Science and Research Building at the University of Houston. A Novice Presentation begins at 7:00 p.m.. The short business meeting and featured speaker are scheduled at 8:00 p.m. Also typically included are Committee Reports, Special Interest Group Reports, current activity announcements, hardware reviews, an astrophotography slide show by members and other items of interest. Parking is NOW across from Entrance 14, by the stadium.

Board of Directors Meeting

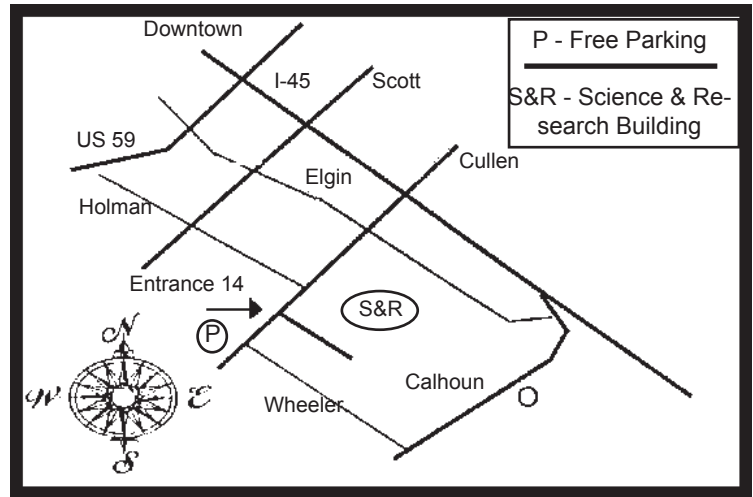
The Board of Directors Meeting is held on dates scheduled by the board at 7:00 p.m. at the University of St. Thomas. Information provided to GuideStar will be published. The meetings are open to all members of the Society in good standing. Attendance is encouraged.

GuideStar Information

The H.A.S. *GuideStar* is published monthly by the Houston Astronomical Society. All opinions expressed herein are those of the contributor and not necessarily of Houston Astronomical Society. The monthly Meeting Notice is included herein. *GuideStar* is available on the HAS web site to all members of H.A.S., and to persons interested in the organization's activities. Contributions to *GuideStar* by members are encouraged. Electronic submission is helpful. Submit the article in text, MS-Word format via email BillPellerin@sbcglobal.net. Copy must be received by the 15th of the month for inclusion in the issue to be available near the end of the same month. Or, bring copy to the General Membership Meeting and give it to the Editor, or phone to make special arrangements.

Editing & Production: Bill Pellerin, 713-880-8061; FAX: 713-880-8850;
Email: BillPellerin@sbcglobal.net

Advertising: Advertisers may inquire concerning ad rates and availability of space.



Houston Astronomical Society Meeting

August 4, 2006

7:00 Novice & Site Orientation

8:00 General Meeting

University of Houston

Houston Astronomical Society

P.O. Box 20332 • Houston, TX 77225-0332



The Houston Astronomical Society welcomes you to our organization. The HAS is a group of dedicated amateur astronomers, most of whom are observers, but some are armchair astronomers. The benefits of membership are:

- ☐ Access to our 18 acre observing site west of Houston -- a great place to observe the universe!
- ☐ A telescope loaner program -- borrow a HAS telescope and try observing for yourself!
- ☐ A monthly novice meeting, site orientation meeting, and general meeting with speakers of interest.
- ☐ Opportunities to participate in programs that promote astronomy to the general public (such as Star Parties at schools)
- ☐ A yearly banquet with a special guest
- ☐ A yearly all-clubs meeting for Houston area organizations
- ☐ Meet other amateurs and share experiences, learn techniques, and swap stories

***You're invited to attend our next meeting.
You'll have a great time.***