

Houston Astronomical Society

GuideStar



June, 2004

At the June 4 meeting...

Houston Science Fair Winners

Beth Turner , Academy of Science and
Technology, Conroe ISD

“Asteroid Occultations”

Nidia Delgado, Stephen Austin High School,
Houston ISD

“Elasticity on Mars”

Douglass Hanson, Clear Brook High School,
Clear Creek ISD

“Measuring Earth-Sun Distance”

and

Texas Star Party 2004 Review

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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.

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 Sartor	H:281-370-3544
Vice Pres: Bill Leach	H: 281-893-4057
Secretary: Brian Cudnik	H: 832- 912-1244
Treasurer: Bill Flanagan	H:713-699-8819
Past President: Kirk Kendrick	H: 281-633-8819

Additional Board Members

Steve Goldberg	713-721-5077	Liaison responsibility
Don Pearce	713-432-0734	
Jay Levy	281-557-4920	Field Trip and Observing, Program
Tessie Nolan	936-321-5422	

Committee Chairpersons

Audit	Don Selle	281-391-5470
Education	Richard Nugent	713-524-1993
Field Tr./Obsg.	Kenneth Miller	936-931-2724
Novice	George Stradley	281-376-5787
Observatory	Michael Dye	281-498-1703
Program	John Blubaugh	713-921-4275
Publicity	Joe Khalaf	713- 660-8219
Telescope	Clayton Jeter	281-573-1337
Welcoming	Susan Kennedy	281-376-3262
	Hannah Lange	832-715-7833

Ad-Hoc Committee Chairpersons

Historian	Leland Dolan	713-688-0981
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't'y	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.
Lawrence Armendarez, U. of St. Thomas

Dues and Membership Information

Annual Dues:Regular	\$33.00
Associate	\$5.00
Sustaining	\$50.00
Student	\$5.00
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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Welcome to New Members!

The Houston Astronomical Society encourages you to join our group of active amateur astronomers and take advantage of the benefits of membership. As a member you'll have access to the club observing site near Columbus, Texas. (You're required to participate in a site orientation meeting before you get the gate lock combination.) The site has concrete pads for setting up your telescope, restroom and bunkhouse facilities, and areas set aside for camping. You'll get monthly issues of the *GuideStar* newsletter, you'll get to vote and to serve the organization as an officer, and you will be supporting the local amateur astronomy community.

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.ghgcorp.com/cbr/jscas.html>

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

President's Corner

May 2004

by *Steve Sartor*

The first thing on the agenda this month is to thank Charles Hudson for his donation to the loaner scope program; a pair (actually, only one) of Orion 10 x 70 binoculars just in time for Comet Neat. As the first loanee I would like to say that they work just fine, although I had a little problem with the "Go-To" at first.

We also have a couple of things that we will be voting on this month. We need to fill the vacancy on our board of directors and we need to vote on a few changes to our by-laws. As most of you already know, we would like to change the way we pay our dues. We would like everyone due at the same time: January 1st. We would also like to raise the dues from \$33.00 per year to \$36.00 per year. Although this "hike" will not cover all of our increased expenditures, it will help offset the increase in our Astronomical League dues and will be easily divisible by twelve. (I would like to note that Bill Flanagan has informed me that he is still capable of dividing \$33.00 by 12 just in case these changes are voted down).

Also on the list of proposed changes is the way we treat e-mail and the On-Line *GuideStar*. E-mail will be afforded the same merit as "snail" mail, and the On-Line *GuideStar* will receive the same merit as the mailed *GuideStar*. This all has to do with how we are notified for annual and special meetings.

We are still looking for candidates to fill the vacancy on our board of directors. To qualify for this position, you need (1) an interest in the well being of the Houston Astronomical Society, and (2) you need to have been a member in good standing for the last twelve consecutive months.

That's all. So, for anyone thinking they may not be qualified to "sit on the board of directors", may I quote:

"I don't know anything about music. In my line you don't have to."

Elvis Presley (1935-1977)

Steve Sartor

Membership Renewals...

Please check the mailing label on your copy of the *GuideStar*, or check your email if you get an electronic copy of the *GuideStar*.

It'll tell you when your membership expires. If it expires soon, please send your renewal to the address on the outside cover of *GuideStar*. The dues information is on page 2.

Membership in the Houston Astronomical Society is one of the great bargains in Astronomy. For a regular membership of \$33 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.

Thanks!

★ Houston Astronomical Society

★ General Membership Meeting ★

★ Friday, May 7, 2004 ★
★ University of Houston ★

Minutes

The Meeting was called to order at 8:15pm, and was followed by a welcome from the President.

The July and September meetings have been moved to the second Fridays of each month due to holidays.

There were 1 new member and about 5 visitors present.

The announcements were as follows:

- A donation of binoculars was added to the loaner scope program.
- Orders were accepted this evening for shirts, which are available in two brands: Lands End with H.A.S. Logo for roughly \$34.00 (actual price depends on number of orders taken), and Jerzees with H.A.S. Logo for \$24.00
- *GuideStar* opt-out: The H.A.S. wants as many people as possible to volunteer to not receive the publication by postal mail, but rather receive it online, in order to cut costs
- John McCormick was presented the Caldwell Club observing certificate #462, which was awarded by the AL on March 31. Amelia Goldberg also awarded Mr. McCormick with an observing pin.
- Registration desk volunteers are needed at the TSP; Steve Goldberg also gave some last-minute information about TSP for those attending.
- Kirk Kendrick gave a brief Observatory status: the new paint job is complete, with Preston and Jerry doing the entire job (sandblasting and painting). The observatory is closed until about the second week of June, due to the presence of dust (from the sandblasting) all over the place, and the concern about that dust getting on the telescopes' optics.
- Susan Kennedy announced a star party to be held at the Northwood Catholic School on the 14th of May—Volunteers are needed.
- Don Pearce gave the month's comet report, which features three bright comets (and a fourth that was asked about):

- C2004F4 (Bradfield): appeared suddenly at the end of March; being discovered on March 28th. The reporting of

this object was delayed by about 5 days. This comet was not intrinsically bright but had a close perihelion on April 17, resulting in its peak brightness of 1st magnitude.

- C2001Q4 (NEAT) is closest to Earth today, about 0.32AU distant. It became visible to the Continental United States on May 3, Monday evening, and is now a naked-eye object from suburban skies. The comet glows at magnitude 3.3 with an enormous coma 30 arcminutes across. The comet also sports a faint and short tail extending 3 to 4 degrees. Some split in the tail is observed, but the entire tail should become more visible as the comet becomes better positioned geometrically in the sky, moving from Canis Major to Monoceros. The comet will also begin fading within one week. Q4 reaches perihelion on May 16th, at a distance of 0.96 AU; it will fade to 4th magnitude by then, moving through Canis Minor to Cancer during this period.
- C2002T7 (LINEAR) is better placed for the southern hemisphere and had passed perihelion on April 23. The comet is rapidly approaching Earth and sports a bright, 8 arcminute, magnitude 3.8 coma from southern sky dark sites. There is a 10-13 degree tail visible as well. The comet makes its closest approach to Earth on May 19, at 0.26 AU distant, then a brief appearance in the evening for Texas.
- C2003K4 (LINEAR), currently at magnitude 11.5, is expected to be bright in October

Steve Goldberg introduced Triple Nickel, who gave a talk entitled "Neutrinos and the Sudbury Neutrino Observatory".

The meeting adjourned at 10:09pm (no door prizes were awarded).

June/July Calendar:



Photo by Scott Mitchell

Check the web site:
www.astronomyhouston.org
Webmaster: Bob Rogers
siteworker@juno.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 siteworker@juno.com.

Date Time Event

June 2004

2	11:20 p.m.	Full Moon (moon looks extra large since it's close to perigee)
4	7:00 p.m.	Novice Presentation - U of H.
	8:00 p.m.	General membership meeting U of H. TSP Recap (S. Goldberg) & Science Fair winners (R. Nugent): Beth Turner, "Asteroid Occultations" Nidia Delgado, "Elasticity on Mars" Douglass Hanson, "Measuring Earth-Sun Distance" Payton Arens, "Moon Moods"
8		Transit of Venus (not visible from Houston)
9	3:02 p.m.	Last Quarter Moon
12		Members Observatory Night - Columbus
17	3:27 p.m.	New Moon
19		Prime Night-Columbus
20	7:57 p.m.	Summer solstice. Summer begins in northern hemisphere.
25	7:30 p.m.	NHAC 4-Clubs Mtg., Steve Edberg (NASA Cassini Team), "Cassini Mission to Saturn." Kingwood College, Teaching Theater
	2:08 p.m.	First Quarter Moon

July 2004

2	6:09 a.m.	Full Moon
9	NOTE: 7:00 p.m.	Meeting is on <i>second</i> Friday Novice Presentation - U of H.
	8:00 p.m.	General membership meeting U of H. Larry Mitchell: "William Herschel - His Life Story"
9	2:34 a.m.	Last Quarter Moon
10		Members Observatory Night - Columbus
17	6:24 a.m.	New Moon
		Prime Night-Columbus
24	10:37 p.m.	First Quarter Moon
31	1:05 p.m.	Full Moon

★ *Send calendar events to JBlubaugh@aol.com ★*
or call 713-921-4275. ★

New HAS Shirt

We have a new shirt for Logo Sales. It is a short sleeve with a collar, and comes in several different colors. It comes in men's sizes and ladie's sizes. The logo was digitized and will be embroidered on each one, not silk-screened. You will be seeing them (I hope) by the next meeting.

For those of you who want to order a shirt, or for those of you who want to order another one, they have to be prepaid. The price of the shirt will be \$24.00. If you want to order, please call me at **281-498-1703**, or you can e-mail me at judyadye@aol.com. All checks are to be made out to HAS and mailed or given to me.

Thank you to the ones who have already ordered a shirt.

Judy Ann Dye

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GuideStar deadline

for the July

issue

is June 15

★ ★ ★ ★ ★

At the HAS meeting, please remember to park across from Entrance 14 because of the construction in the parking lot of the Science and Research bldg.

Observations... of the editor

by Bill Pellerin, GuideStar Editor

Monday, 5/17/2004

Hello from the Texas Star Party. Really! I'm typing this from my observing location on the east side of the north field at the Prude Ranch. It's Monday night and the sky has not yet cleared completely. Quite a number of stars are shining overhead, through the breaks in the clouds, and my telescope is about 6 feet to my left waiting for some action.

I got here yesterday (Sunday) about 2:00 p.m. and I understand that there was a significant rainstorm on Saturday night that dropped about 2" of rain on the ranch. This is a good thing, since it helped settle the dust for which the Prude Ranch is rightfully famous. Sunday night was good. Mostly clear skies with some lingering clouds near the horizon. I got a very nice view of Comet NEAT 2001 Q4 in Cancer. It was easily visible naked eye and has a very nice appearance in the eyepiece.

There's a large crowd of amateur astronomers here this year, and the weather is supposed to get even better as the week goes on. We'll see. I've already seen some very interesting telescopes and some great astrophotos by TSP participants. The vendor's area was buzzing today with vendors offering telescopes, of course, and mounts, and accessories, and reference books, and so on. More vendors will come as the week goes on.

Steve and Amelia Goldberg are hard at work on the attendee registration and Jayne and Dana Lambert are keeping the vendor area under control. There are some new items at this year's showing. Automation seems to be the next big thing. There is a Vixen mount with integrated controller and display (www.VixenAmerica.com), and there is a radio-controlled telescope drive system (www.stellarcats.com) that looks interesting.

Tuesday, 5/18/2004

The sky cleared up after sunset and remained clear until about 4:00 a.m. About that time, new clouds began to gather, so it was time to get some sleep. Many of us were working on John Wagoner's list for the 2004 TSP, with some of us muttering about the difficulty of the list. Many



Telescopes on the north field at TSP 2004

of the objects are small and dim, and if you don't know exactly where to look you won't see the object. I've done most of the list, but I've missed some of the objects that set early. Sunday and Monday evenings began with clouds. I'm hoping to finish the list to-

night, though. It's a tribute to the dark skies of the TSP that I can see the objects at *all* in my 4" refractor.

Of course, Larry Mitchell has his list, and the seasoned observers, with large telescopes, are working on that one.

Friday, 5/21/04

Well, I finished John Wagoner's list on Tuesday evening and have my pin to show for it. We had clear skies on Tuesday and on Wednesday nights, so all-night observing sessions were in order. Wednesday morning, before sunrise, the Milky Way was a sight to behold, starting in the south, going overhead, and continuing to the northern horizon. If you've never seen the Milky Way from the TSP, you owe it to yourself to see it.

The news today is that Jose' Sancho and Susan Spore now have a new family member, Alexander. Mother, father, and son are reportedly doing well, while many of the family baby sitters are enjoying the TSP.

Wil Tirion is here, ready for his talk on Saturday. David Levy showed up last night, just in time for a major rainstorm. It was a great lightning show for a while and Steve Goldberg captured some of it on his camera.

The Clear Sky Clock is not looking good for tonight or tomorrow night. We'll see what happens.

In the meantime, vendors are here with astronomy goodies, and the swap-meet is going on today.

Internet access is available from the TSP this year. (Yeah!) So, you can come to the TSP and keep up with your work at the office..... *right*.

The ranch has a new food service manager, so the menu has changed this year. We've had some very good meals; last night was chicken wellington with green beans and cream cake for desert. Yummm.

There are three 36" telescopes on the field this year. Larry Mitchell's is there, of course as are two others. There's a lot of light being gathered.

The astrophoto contest is underway with some excellent photographs on display in the main meeting hall. The 'Great Texas Giveaway' is going to be very exciting this year. Jayne Lambert told me that there will be 40 'minor' prizes tonight in addition to the grand prizes.

Maybe this is my year to win something!!

*Until next time...
clear skies and new moons!*

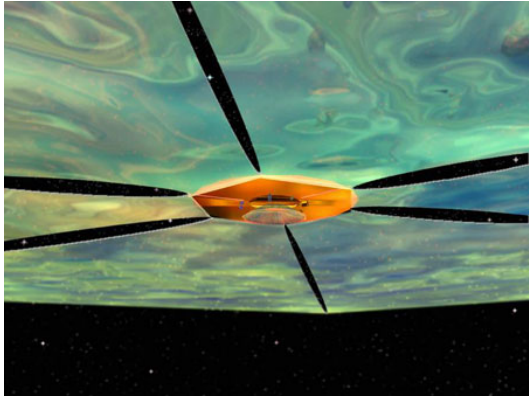
..Bill

Far-out Ideas

by Patrick L. Barry

Ever had a great idea for a new spacecraft propulsion system, or for a new kind of Mars rover? Have you ever wondered how such “dinner napkin sketches” evolve into real hardware flying real missions out in the cold blackness of space?

The road to reality for each idea is a unique story, but NASA has defined some common steps and stages that all fledgling space technologies must go through as they’re nursed from infancy to ignition and liftoff.



This is just one idea of how a solar sail could be used to power an interstellar probe. A solar sail is one possible type of new technology that NASA’s New Millennium Program would test in space before it would be risked on a scientific mission.

Suppose, for example, that you’ve thought of a new way to shield astronauts from harmful radiation during long space missions. In the first stage, you would simply “flesh out” the idea: Write it down, check the physics, and do some quick experiments to

test your assumptions.

If the idea still looks good, the next step is to build a “proof of concept.” This is the “science fair project” stage, where you put together a nifty demonstration on a low budget—just to show that the idea can work.

For your radiation-shielding idea, for example, you might show how a Geiger counter inside a miniature mock-up doesn’t start clicking when some radioactive cobalt-60 is held nearby. The shielding really works!

Once that hurdle is cleared, development shifts into a higher gear. In this stage, explains Dr. Christopher Stevens of JPL, the challenge isn’t just making it work, but making it work in



space.

”Some conditions of space flight cannot be adequately simulated here on Earth,” Stevens says. Cobalt-60 doesn’t truly mimic the diverse mixture of radiation in space, for example, and the true microgravity of orbit is needed to test some technologies, such as the delicate unfolding of a vast, gossamer solar sail. Other technologies, such as artificial intelligence control systems, must be flight tested just because they’re so radically new that mission commanders won’t trust them based solely on lab tests.

Stevens is the manager of NASA’s New Millennium Program (NMP), which does this sort of testing: Sending things to space and seeing if they work. In recent years the NMP has tested ion engines and autonomous navigation on the Deep Space 1 spacecraft, a new “hyperspectral” imager on the Earth Observing 1 satellite, and dozens of other “high risk” technologies.

Thanks to the NMP, lots of dinner napkin sketches have become real, and they’re heading for space. You can learn more at the NMP website, nmp.nasa.gov/.

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

Observatory Duty Roster

by Michael B. Dye, Observatory Chairman

This is the duty list for June, July and August. If you are listed in this roster, please be sure to contact your supervisor for any information that you may need and the date and time to be at the site. You may change from site duty to open house or from open house to site duty by pre-arrangement with the Site Supervisor for that month. Changes between months require Observatory Chairman coordination.

June Supervisor Matt Delevoryas 713-662-2939
Linda Sternbach Site
Larry Wadle Site
Mark Watson Members Observatory Night 06-12-04
Tom Williams Site
Barbara Wilson Members Observatory Night 06-12-04
Buster Wilson Members Observatory Night 06-12-04
Warren Wundt Site
John Blubaugh Site
Ken Carey Site

July Supervisor Allen Gilchrist 281-443-8773
John Chauvin Site
Art Ciampi Members Observatory Night 07-10-04
Brian Cudnik Site
Gary Delzer Site
Kay Sandor Site
George Dolson Members Observatory Night 07-10-04
Kenneth Drake Members Observatory Night 07-10-04
Victor Flores Site
Wayne Hutchinson Site

August Supervisor Don Selle 281-391-5470
Clayton Jeter Site
Stanley Jones Site
Keith Jurgens Members Observatory Night 08-07-04
Arnie Kaestner Site
David Kahlich Members Observatory Night 08-07-04
Jerod Kendrick Site
Robert Kuna Site
Jay Levy Site
Mary Lockwood Members Observatory Night 08-07-04

Please remember that Site work can be done anytime and does not have to be done just before Members Observatory Night. Contact your Site Supervisor for details. Names are selected for Site Duty using the current Alphabetical listing for Observatory Key Holders. If any member knows of a conflict please call me before your name is listed.

Observatory Corner... from page 10

The Observatory Committee still needs about \$4,000.00 to pay for the new John Deere riding Lawn Tractor and to fund the Observatory Site operation for the rest of the year. The Houston Astronomical Society is a 501 (c) 3 educational activity and all donations to the HAS are Tax deductible. The Observatory Committee will send out Tax Receipt Letters for this year's donation in January 2005.

The Society continues to benefit from members who shop at Randalls and now Kroger's. For this we (the Society) thanks you. Please link your Randalls card to the Houston Astronomical Society so that the society can benefit from the Randalls program. Our number is #6618. This is very easy to do, just go to the Courtesy Booth and tell the person there what you what to do. If you shop at Kroger, we now have a card available (at the General Meeting) that you present at the cash register when you check out. We can thank Joe Khalaf for his efforts in getting the cards.

Please fill out the appropriate log form when you use the site. Remember we use these forms as attendance records and to report Observatory Site problems such as broken toilets.

August Meeting Program

Richard Schmude's

"The 2003 Mars Apparition"

This talk will focus on work done by both amateurs and professional astronomers. The shrinkage rate of Mars' south polar cap will be discussed along with the December 2003 dust storm. Dr. Schmude will also briefly describe the two major discoveries made by professional astronomers, which are: the discovery of methane in the Martian atmosphere and the discovery that liquid water was once on Mars's surface.

Pictures from the 2004 Texas Star Party

by Bill Pellerin, GuideStar Editor



Kent Francis at the Texas Star Party Swap Meet



How many astronomers does it take to fix a dobsonian drive system?
A team of experts (including George) work on George Stradley's telescope.
(They fixed it.)



Bill Flanagan phones home. His observing partner and father-in-law, Bob Aaker didn't make the trip this year due to illness. (He's better now.)



Before the rainstorm on Thursday night, there was a beautiful cloud display. This storm cloud was white on top, yellow in the middle and red nearer the bottom. This picture is taken facing east near sunset.



This is the Vixen Sphinx mount with the Star Book controller. The controller features an integrated star map display for controlling the telescope.

Logo Sales

Please note the prices for the books listed below. They are all new and will go fast on a first come, first served basis.

Observe the Herschel II Guide \$17.00
Observe and Understand the Sun \$14.00
Astronomy, The Teachers Handbook \$12.00
ALPO's Mars Observer's Handbook \$12.00
Observe Variable Stars \$17.00
Observe Eclipses \$17.00

Orders will be taken for the 16 inch Levy Planisphere. It will sell for \$24.00 prepaid.

The prices all include taxes. **All checks should be made out to HAS** for the correct amount, and mailed to Judy Dye, 12352 Newbrook, Houston TX 77072-3910. If there are any questions, please call. Our phone number is 281-498-1703.

Judy Ann Dye

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.

North Houston Astronomy Club

General Membership Meeting

June 25, 2004 at 7:30 PM

Kingwood College – Teaching Theater

Program: "Cassini Mission to Saturn"

Speaker: Stephen J. Edberg, NASA Cassini Team

The Cassini Orbiter and Huygens Probe were launched on October 15, 1997 almost seven years ago. It is the largest and the most expensive and spacecraft ever sent to explore the Solar System. It also has the most science instruments ever sent. The orbiter was built by the Jet Propulsion Laboratory (JPL) in Pasadena, California which is managed by the California Institute of Technology for NASA. The probe was built by the European Space Agency (ESA).

June 11, 2004 – Phoebe flyby

July 1, 2004 – Saturn orbit insertion

December 25, 2004 – Release of the probe

January 14, 2005 – Probe enters Titan atmosphere

Stephen J. Edberg has been an active amateur astronomer since 1966 and worked professionally in the field since 1970. He is an astrophotographer and telescope builder. His photography, research, instruments, and writing have appeared in *Solar Physics*, *The Astrophysical Journal*, in other professional journals, and in *Sky and Telescope*, *Astronomy*, *Telescope Making*, *Griffith Observer*, *Sky and Space*, and the *Journal of the British Astronomical Association*.

Observatory Corner



By Michael B. Dye Observatory Chairman



My lead off item this month will be the "Paint the Observatory Activity". We accomplished the majority of this activity on the first weekend of May, despite help from the weather. After having had to cancel out the previous month, I was ready to go this month (May) come Hell or High Water. As it ended up we almost got the later. I arranged to take Friday off and arrived at the Observatory Site at about 10:30 Friday (April 30th) morning. I was just about the last one to show up, Ken Miller was right in front of me as we went through the

gate into the Observatory Site. When I drove in, Preston and Jerry were getting the Sand Blasting and Compressor equipment ready with Kirk Kendrick and Buster Wilson helping. About 11:30 or so after we sorted out who was doing what, we ended up with the following work distribution:

Jerry Dulatre, Preston Engebretson and Buster Wilson were the sand blasting and painting crew.

Kirk Kendrick, Ken Miller and Bob Rogers were "the protect the optics" crew.

I kind of wandered around being useless and getting in the way.

After the optics got protected, that crew split up into two crews. Ken Miller unloaded his tractor mower and the new John Deere lawn tractor. Ken started cutting the tall grass using his tractor. Bob Rogers and Kirk Kendrick started repairing the power line to the red lights that line the EXIT road. During this repair activity, it was determined that they (Kirk and Bob) needed some PVC to bury the power line. While they were in Columbus getting the PVC pipe, Kirk also picked up lunch for us at Sonic. Thanks Kirk.

After Lunch, Kirk and Bob completed the repair of the EXIT light power system. Bob then got on the John Deere Lawn Tractor and started mowing the Picnic area. We (the Observatory Committee) now own a brand new John Deere, L130, 23 HP, 48-inch Lawn Tractor. Bob Rogers and Ed Szczepanski checked out the operation of the Lawn Tractor over the weekend. This little jewel cost the Observatory Committee only \$2,506.93. Unfortunately at this point we only have \$500.00 in donations. We still need at least \$3,000.00 to \$4,000.00 to (1) cover the cost of the Lawn Tractor we already own and (2) help cover the costs of operating the Observatory Site for the rest of the year.

We all finished Sand Blasting, Painting and repairing the EXIT power system about 6 PM and retired to the picnic area to partake of the steak, potatoes and corn that Ken brought for dinner.

Saturday was a bust.

I was fairly certain the day was going to be a bust when I was awakened by a loud burst of thunder at 7:05 in the morning. The day went downhill from there. The rain stopped some time in the early afternoon, about 1:30. I would like to thank Ed Preston who made the attempt to help with the Sand Blasting and painting activity by driving all the way out there. I am sorry that I forgot to call him and tell him not to come.

Bob Rogers and Ed Szczepanski finished mowing the pad and picnic area and secured the new lawn tractor into the old lawn mower shed. Other than that we didn't get much done.

We have made an Observatory Committee decision that the only people that

will use the new Lawn Tractor will be Bob Rogers or Ed Szczepanski.

I woke up about 7:30 on Sunday morning and the sun was shining. Things started looking better and better. Jerry and Preston showed up at 09:28 and we started sand blasting immediately. They (Jerry and Preston) continued sand blasting and painting through the day and after completing the West rail of the roll off roof and quit for the day. The crew was down to Jerry, Preston, Bob, Kirk, Susan Kennedy and myself. All of us but Jerry and Preston left by 4 PM.

Jerry and Preston stayed the rest of the week sand blasting and painting the metal work. On Monday Preston called me (on the phone) and told me that we were going to run out of paint before we ran out of surface to paint. Tuesday, I then made an early morning pickup at Jones Blair Paints in Bellaire to get the paint we would need and then made a quick run out to the Observatory Site. I got there about 10:30 and left at 10:45 and got back to work at 12:45. Not bad, and I didn't even break the speed limit.

Wednesday evening, Preston called me to tell me that the metal work was effectively finished. Thursday morning he would be returning the scaffolding and sand blasting compressor and pot to the rental companies and Jerry would stay behind to finish some painting. Except for painting the exterior brick walls, the Observatory has been painted. We will be going back out there (to the Observatory), when the weather gets cooler, and water blast the brick walls and paint the exterior walls.

The next thing I am going to cover is the 2004 Fund Raising Activity. As I stated above, we have collected \$500.00 in donations so far. We still need to raise about \$4,000.00 for continued operation of the Observatory Site. For those of you who are wondering where we got the money to paint the Observatory, we (the Observatory Committee) set aside three or four hundred dollars each year so that we will have a paint fund in which to pay for the painting activity. We usually save up about \$2,000.00 for the paint job. Donations can be made to the Observatory Site Fund by sending checks made out to the "HAS Observatory Committee" to HAS PO Box at the following address:

Houston Astronomical Society
P. O. Box 20332
Houston, TX 77225-0332

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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

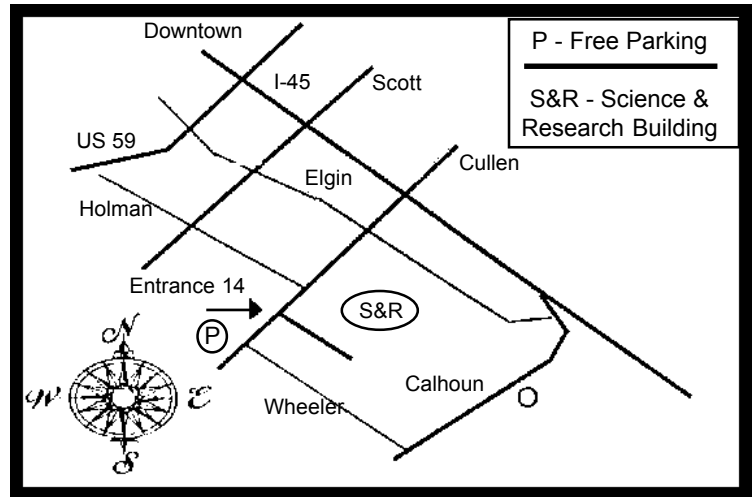
The Board of Directors Meeting is held on dates scheduled by the board at 7:00 p.m. at the University of St. Thomas. Information provided to GuideStar will be published. The meetings are open to all members of the Society in good standing. Attendance is encouraged.

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 sent via bulk rate mail to Regular, Student, and Honorary Members of H.A.S., selected individuals and recent visitors to the General Membership Meeting. Contributions to *GuideStar* by members are encouraged. Electronic submission is helpful. Submit the article in text, MS-Word format via email BillP10566@aol.com. Copy must be received by the 15th of the month for inclusion in the issue to be mailed 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.

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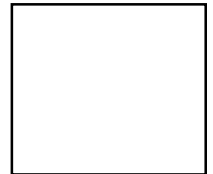
Meeting

June 4, 2004

7:00 Novice & Site Orientation

8:00 General Meeting

University of Houston



Houston Astronomical Society

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