



June, 2002

At the **June 7** meeting...

Dr. Erika Gibb

Comet Dust

***What do we learn from Comet dust about
the solar system?***

Houston Astronomical Society

GuideStar

Starline - 281-568-9340

Houston Astronomical Society presents *Starline* -- a recorded message of Society events and astronomical happenings. This service is updated regularly, so call often to keep up-to-date on Society functions, new comets and more.

HAS Web Page: <http://www.astronomyhouston.org>

Schedule Changes & Up-To-Date Information

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

Observatory Site Telephone: 979-732-8861

★★★★★ **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: Kirk Kendrick H: 281-391-3834 Treasurer: Debbie Moran H: 713-666-9428
Vice Pres: Bill Leach H: 281-893-4057 Past President: Don Pearce H: 713-432-0734
Secretary: Brian Cudnik H: 832- 912-1244

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Liaison responsibility
Bill Flanagan 713-699-8819
Howard Leverenz 713-957-8667
Jay Levy 281-557-4920 Field Trip and Observing, Program
Christopher Mendell
Steve Sartor

★★★★★★★★★ **Committee Chairpersons** ★★★★★★★★★

Audit Matt Delevoryas 713-666-9428 Program Scott Mitchell 713-461-3020
Education Richard Nugent 713-524-1993 Don Pearce 713-432-0734
Field Tr./Obsg. Steve Grubbs 713-455-5701 Publicity Warren Wundt
Novice George Stradley Telescope Darin Palmer 713-223-3123
Observatory Michael Dye 281-498-1703 Welcoming Marg Nunez 713-529-2549
..... Hannah Lange

★★★★★★★★★ **Ad-Hoc Committee Chairpersons** ★★★★★★★★★

Historian Leland Dolan 713-688-0981 Publ. Star Party Marg Nunez 713-529-2549
Librarian Peggy Gilchrist 281-443-8773 Rice U. Coord. Matt Delevoryas 713-666-9428
Logo Mds Sales Judy Dye 281-498-1703 Schedule Obs'v'ty Steve Goldberg 713-721-5077
Long Range Plan Bill Leach 281-893-4057 Texas Star Pty Steve Goldberg 713-721-5077
Parliamentarian Kirk Kendrick 281-391-3834

★★★★★★ **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.

★★★★★★★★★ **Dues and Membership Information** ★★★★★★★★★

Annual Dues: Regular ... \$33.00 Student \$5.00
Associate \$5.00 Honorary None
Sustaining . \$50.00

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 Houston Star*. 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 \$29.95/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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Call the Starline, 281-568-9340 for updates and changes

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 Flanagan	713-699-8819
Comets	Don Pearce	713-432-0734
Lunar & Planetary	John Blubaugh	713-921-4275
Occultations & Grazes ...	Wayne Hutchison	713-827-0828
Advanced	Bill Leach	713-863-8459

Observations... of the editor

by *Bill Pellerin, GuideStar Editor*

The Texas Star Party 2002

There's a lot to be said about observing from the grounds of the Prude Guest Ranch near Fort Davis, Texas. The west Texas skies are clear about 2/3 of the time, according to the guide at the McDonald Observatory on Mount Locke, so the feature of the area that makes it good for astronomy is the dark skies, not the seeing. This is one of the darkest places in the country, and, as such, it attracts astronomers from all over the world.

Let me tell you about the 2002 Star Party.

Observing – The skies were not the best this year, but there was plenty of time for observing, nonetheless. The first night, Sunday, was clear early, but clouded over by about 1:30 (Monday morning). I heard that it cleared again by about 3:00, but I went to bed at about 2:00 and didn't get up until daylight. The sky was good enough early for me to complete more than half of the John Wagoner list for 2002. Tuesday was a wash-out, and observing was replaced by impromptu get-togethers on the observing field. By Wednesday, a weak cold front had pushed through, and the skies were very nice all night. The observing conditions were ideal for completing John's list or working on H.A.S. member Larry Mitchell's Advanced Observing List.

As the week wore on, conditions alternated between good and not-so-good. On Saturday night the sky was cloudy as the evening presentations ended, and since I was driving home on Sunday, I didn't wait up for the skies to clear.

Observing lists – John Wagoner's "Seeing Double" list for this year was excellent. It's available on the TSP web site (www.TexasStarParty.org). Click the [Activities] button and then the link for Telescope Programs. You won't see these objects from the city, but from a dark site, they're very nice, indeed. With my 14.5" Dobsonian, they were all easily seen and very enjoyable. My favorite object pair of the list is B86 – NGC 6520. This

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Houston Astronomical Society

***Meeting Notice
For Friday, June 7, 2002***

Dr. Erika Gibb

Comet Dust

***What can we learn about the origin
and composition of the solar system
from comet dust. Work is now in
progress to find out.***

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

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

**See the inside back cover for a map
and more information.**

June/July Calendar:



Photo by Scott Mitchell

Date	Time	Event
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June 2002

1		Members Observatory Night- Columbus
2	7:05 p.m.	Last Quarter Moon
3	eve.	Venus about 1.6 degrees from Jupiter
7	7:00 p.m.	Novice Presentation - U of H.
	8:00 p.m.	General membership meeting U of H. Dr. Erika Gibb will speak about Comet Dust
8		Prime Night-Columbus
10	6:47 p.m.	New Moon
	7:30 p.m.	Approximate start of partial solar eclipse from Houston.
	8:15 p.m.	Partial solar eclipse at sunset. About 50% of sun obscured at sunset.
17	7:29 p.m.	First Quarter Moon
18	7:30 p.m.	Advanced SIG Mtg. Rice Univ., contact Matt Delevoryas, 713-795-0808
21	8:24 p.m.	Summer solstice. Summer begins in northern hemisphere.
24	4:42 p.m.	Full Moon

July 2002

2	12:19 p.m.	Last Quarter Moon
3	8:20 a.m.	Mars less than 1 degree from Jupiter
5	7:00 p.m.	Novice Presentation - U of H.
	8:00 p.m.	General membership meeting U of H. TSP 2002 Wrap-Up and Science Fair Winners
5		Earth at apogee
6		Prime Night-Columbus
10	5:26 a.m.	New Moon
16	7:30 p.m.	Advanced SIG Mtg. Rice Univ., contact Matt Delevoryas, 713-795-0808
	11:47 p.m.	First Quarter Moon
24	4:07 a.m.	Full Moon
25	7:30 p.m.	HAS Board meeting SS106 at Rice University entrance 13
27		Members Observatory Night- Columbus

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

Minutes of the May, 2002 Meeting of the Houston Astronomical Society

By Brian Cudnik, Secretary

The Meeting began at 8:06pm with Bill Leach presiding over the meeting. Kirk is in Europe with his wife.

Vice President Leach recognizes several people publicly: Bill Pellerin, *Guidestar* Editor, Matt Delavoryas, Acting Treasurer for tonight, and Judy Dye, Logo Sales.

New members are recognized: Charles Harrance, Fletcher Gray, Victor Flores, and Rick McGee.

H.A.S. Meeting Information is presented on the overhead projector.

One guest (Tom) is recognized.

The following announcements were made:

- ❖ Fred of Land, Sea, and Sky presents a stack of flyers announcing the presence of Japanese Astronaut Takao Doi at the upcoming Multicultural Fair on May 11. Takao, the first Japanese person in space, will be scheduled to appear from 1 to 2pm. The fair will include music, crafts, food, etc. and will be held at 7922 Antoine.
- ❖ Judy Dye, Logo Sales, promotes t-shirts, hats, books, the 2002 Observer's Handbook, and the book "Messier Objects" for the novice observer.
- ❖ Don Pearce gives the comet report. Comet IZ is now at magnitude 4.5 and slowly fading, after making its closest approach to Earth on April 29. It is

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moving from Draco to Hercules, passing less than 2 degrees from M13 on May 15 and 16. The comet then turns south, passing the Celestial Equator into Southern Hercules, where it will spend the next 360 years. The comet Utsonymia is fading, and at 7pm CDT this evening, passed within 3' of the planet Mercury (it is now, at the time of the announcement, 6' from Mercury). Comet C/2000 WM1 is now undergoing a slow fade in Hercules, at magnitude 10.5. It will head north toward Cygnus where it will remain essentially forever as it recedes on its hyperbolic orbit.

- ❖ Brian Cudnik, Secretary, is then recognized publicly.
- ❖ Board Meeting on May 30th at Rice University.
- ❖ Ken from the Audience announces that on July 13, a CCD imaging clinic will be held where Rick Sheffield will serve as host. The cost is \$250 to offset the trip to be taken by author Ron Wodaski, who will be doing the instruction
- ❖ ACS on HST saw first light and provided very impressive images

Don Pearce introduces tonight's speaker, Dr. Reggie Dufour, who speaks about "Those Colorful Nebula: Cosmochemical Laboratories" and is followed by a question and answer session.

New members kits are available for tonight's new members.

The LRPC survey has resulted in the Board looking at Equipment and Program considerations.

Door prizes are awarded, then the meeting adjourns at 9:52pm.

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combination of a dark nebula (B86) and an open cluster (NGC6520) is quite striking. To one side of the dark nebula is a bright, reddish star that sets the view off like a jewel in the night. Very nice.

John distributed about 300 pins for observers who completed this list, or completed the list from a previous year, or completed the binocular list.

Larry Mitchell's Advanced Observing list was intended for observers with large scopes, good observing skills, and a well-developed ability to find objects in the sky. Larry suggested to me that a 20" telescope is the right instrument to complete this list (although he conceded that the list should be possible in a smaller telescope). The list consisted of interacting galaxies, and Larry gave a presentation on this list during one of the afternoon sessions. Larry puts a lot of work



Larry Mitchell's 36"
at the TSP

into these lists, but it's obvious that he loves doing it and enjoys giving the TSP attendees something to work on. During observing sessions, he offered up the use of his 36" telescope to anybody who happened by. (I observed M51 through the 36", and it was quite a view!) About 20 persons completed the list during TSP and were awarded pins by Larry.

Amelia Goldberg's novice list, intended for new observers, or the spouse or family members of TSP attendees was quite popular. The list consists of all naked-eye objects, easily within the range of a novice observer. This program gets people out under the sky who aren't ready for John's or Larry's list.

Programs – There were several outstanding presentations at this year's TSP. Richard Feinberg, the editor of *Sky and Telescope* magazine was the

Continued...

Observations... from previous page

featured Saturday night speaker, with a presentation on the near-term future of astronomy. He talked about new instrumentation that's becoming available to amateurs (and professionals) and new observing programs that are made possible by this equipment.

Rice University's Reggie DuFour presented on Thursday evening on the types and the composition of nebulae in the Milky Way galaxy. He discussed the 'real' colors of the nebulae, and the processes by which these colors are produced.

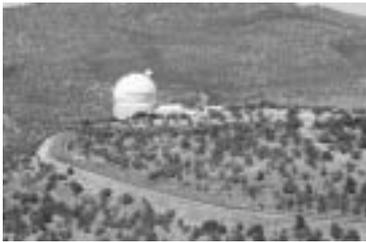
Friday evening's presentation was by Brad Schaefer of the University of Texas, and the topic was "How Far Can You See?". Brad is a dynamic speaker and he enjoyed making fun of Steven O'Meara, whose observing skills are legendary. His answer to 'how far can you see?' was different for mere mortals than it was for Steven O'Meara.

Former H.A.S. member Anna Reyes presented during one of the daytime sessions, and so did current member Richard Nugent.

Vendors – A nice array of vendors' wares were on display at the TSP. There were books, telescopes, accessories, jewelry, T-shirts, and more available for purchase during the star party. I bought a couple of books at the TSP... but no major purchases. Al Nagler didn't make it to TSP this year, though.



Richard Feinberg of
Sky and Telescope
Magazine



Dome of the HET
at McDonald

McDonald Observatory – Technical tours were available several times during the TSP. My wife, Lori Valencic, and I enjoyed a tour on Tuesday afternoon and we were treated to an opportunity to enter the dome of the Hobby-Eberly telescope, and the dome of the 108" instrument. One of the researchers was able to provide some detailed information on the observing programs that were ongoing

Continued....

Observations... from previous page

with the Hobby-Eberly telescope. The 108" telescope was about to have its mirror removed for re-coating, and the staff was in the process of preparing for the removal of the mirror while we were there.

Dust – There's plenty of dust at the Prude Ranch, so if you go next year, you should expect that dust will get into your equipment and plan accordingly. The observing is worth the cleanup you'll have to do when you get home, though.

Food – The Prude Ranch food seemed to be a bit better this year. The selection of food is always limited (one entrée per meal), and the vegetables are a bit overcooked for my taste, but the meals were enjoyable, especially since it provided an opportunity to visit with fellow attendees.

Accommodations – As usual, the grounds were crowded with tents and campers, and all the rooms at the Prude were taken. Unfortunately, not everyone who wanted to go could get a room on the ranch. Many TSP'ers were obliged to find accommodation off-site. I was able to stay on-site this year, and it's a great convenience to be able to walk from the room to the observing field as needed.

Competitions – In addition to the astrophotography awards, there were new awards this year for astronomy art (drawings, multimedia, paintings, etc.). The winner in the art contest was a painting of the earth and the moon that was simply outstanding. Most folks thought the image was a composite photograph. All the work was very nice.

I'm looking forward to the TSP review at the H.A.S. meeting. If you went, I hope you had a great time, and if you couldn't make it this year, I hope you'll have the chance to go next year.

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

..Bill

More TSP Pictures



Bill Flanagan and Bob Aaker at the TSP. They were observing with Bill's 14" Celestron when conditions were good.

Larry Weber was demonstrating his freeware autofocusing system at the TSP. This free software is available from shareyoursky.com and soon focusmax.com. The software is called FocusMax and seemed to work quite well in the demo that Larry gave. Check it out!.



Peter Nolan, Floyd Thorn, and Tessie Nolan. Floyd Thorn was recognized for his contributions to astronomy education in west Texas.

Dad's Day 5k Run



.....
Benefits Us Too,
...supporting Prostate Cancer Research

June 15,2002, 8:00 a.m.

Beginning at the Fonde Recreation Center, Memorial at Sabine.

Also, includes a family walk.

Register online at:

<http://www.txustoo.org>, or pick up a registration form at your Randalls store.

Marg's Star Parties

Mark these dates:

June 22 and July 20. There will be star parties for the boys at Camp Deerfoot near Conroe. This is a volunteer opportunity to share the skies with some well behaved, underprivileged boys at this camp.

Call (713-529-2549) or email (marg10@flash.net) Marg Nunez to volunteer or for more information.

Membership Renewals...

Please check the mailing label on your 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 the inside front cover.

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!

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://rampages.onramp.net/~binder/>

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>

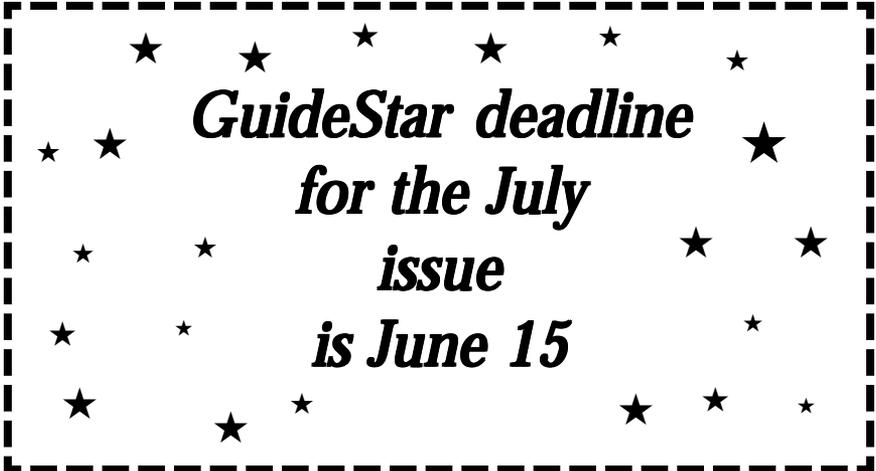
North Houston Astronomy Club meets at 7:30 p.m. on the 4th Friday of each month in the Teaching Theatre of the Student Center at Kingwood College. Call 281-312-1650 or E-mail bill.leach@nhmccd.edu. Web site: www.astronomyclub.org

HAS Web Page

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

The address is: <http://www.astronomyhouston.org>

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 goldberg@sccsi.com. (You can click on my name on the HAS home page). Or, you can call Steve Goldberg (WebMaster), at 713-721-5077.



***GuideStar deadline
for the July
issue
is June 15***

Observatory Duty Roster

by Michael B. Dye, Observatory Chairman

This is the duty list for June, July and August. Some names may have been moved from one month to another to accommodate some conflicts. 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
Larry Mitchell Members Observatory Night 06-01-02
Jeff Moore Site
Mark Mulrooney Site
Ben Negy, Jr. Members Observatory Night 06-01-02
Johnny Norris Site
Richard Nugent Members Observatory Night 06-01-02
Ralph Overturf, Jr. Site
Don C. Pearce Site
Sim Picheloup Site

July Supervisor Allen Gilchrist 281-443-8773
Debbie Moran Site
Glenn L. Ray Members Observatory Night 07-27-02
Mike Reynolds Site
Henry Schneider Members Observatory Night 07-27-02
Steve Simpson Members Observatory Night 07-27-02
Larry C. Wadle Site
Mark R. Watson Site
Tom Williams Site
Warren Wundt Site

August Supervisor Logan Rimes 713-681-5397
Barbara Wilson Members Observatory Night 08-03-02
Buster Wilson Members Observatory Night 08-03-02
John Blubaugh Site
Ken Carey Members Observatory Night 08-03-02
John Chauvin Site
Art Ciampi Site
Brian Cudnik Site
George Dolson Site
Ken Drake Site

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

By Michael B. Dye Observatory Chairman



This article was actually started last month to run in the May *GuideStar*. Unfortunately I was unable to complete the article and so I am rewriting some of it to reflect what has already happened. My apologies to the *GuideStar* staff and the membership for not getting this article to the *GuideStar* Editor in a timely manner.

The Observatory Committee and the Board of Directors have decided to upgrade the operation of the C-14 Telescope in the Observatory. Andy Saulietis has agreed to accomplish the actual upgrade. Andy was involved in installing the C-14 in the Observatory back in the mid 1980's. Allen Gilchrist has been a participant in a string of e-mails with Andy for the last month or so and has worked out the details of the upgrade. The upgrade boils down to replacing the existing RA motor and electronics with a servo motor system driven by a computer program and electronics by Mel Bartels. The declination motor and tangent arm would be replaced with a worm gear system driven by a second servo motor controlled by the same electronics and computer system. Andy has indicated that he will install feedback encoders in the system. The system could be guided for photography, either manually or with an autoguider and will be capable to GOTO operation.

Andy has given us a rough cost estimate of \$800.00 to \$1,000.00 for the upgrade. I believe that Andy's cost along with unexpected incidentals will come close to \$2,000.00.

The C-14 has been taken out of service, removed from the pier, and Allen Gilchrist has carried the parts to Andy. TSP turned out to be a very convenient time for Allen Gilchrist to transfer the C-14 parts to Andy. Allen Gilchrist and Bob Rogers dismounted the C-14 on April 27th (a Saturday). The transfer took place at TSP and Andy will take the C-14 parts back to his home in New Mexico where he will accomplish the upgrade. Andy has indicated that he will most likely be finished sometime before the end of July. He plans to bring everything to Columbus and install it.

Continued....

Observatory Corner... from previous page

This action was not done on the spur of the moment. The Observatory Committee has been considering an upgrade the C-14 for the last three years. Allen Gilchrist volunteered to head this sub-committee and I would like to thank Allen for all the work and research he has done on this activity. He started it about three years ago and now it looks like his efforts are about to bear fruit.

In other Observatory news: we are getting a few loads of road base material to resurface the site roads. Some of those who go to the site may have noticed the large (OK, medium) sized pile of dirt/rock along the North side of the road as you come into the Site. This is the first load. I intend to get one or two more loads in order to do the roads up properly. This will cost us about \$75.00 per load (about 5.5 tons per load). I have some 'volunteers' to spread the dirt along the road this summer/fall before the Annual Picnic.

The first Saturday of TSP, Bob Rogers called me about 9 AM from the Observatory Site and says that it is 91 degrees (F) in the Observatory Chart Room. The AC unit for the room had died. I told Bob that I would be there in about four hours (turned out to be closer to five) as I had a few things at home to finish. I finished what I was doing, unloaded the car that was still filled with the HAS meeting stuff (Logo Sales) from the night before, put some tools in it and headed for the nearest Home Depot. Judy didn't go with me because she was going with Mary Lockwood to help at the George that night. It seems that the George needed volunteers as most everyone had headed west to TSP.

Anyway I got to the Home Depot and bought what I thought was an inexpensive 8000 BTU AC unit. Stuck it into the back of the van (Vans are good for carrying all sorts of HAS stuff) and headed out for the Observatory Site. I got there about 2 PM. Bob stopped mowing the grass in the Pad area and helped me load the stuff into the Chart Room. We pulled the old AC unit out and started installing the new one. About that time Terry and Jerry (?) (I forget the last name) showed up to check out the Observatory Site and I they both helped with the installation. Bob then went back to mowing the grass and Terry tagged along with him (Bob) to see how to run the lawn mower. That left Jerry to help. About that time Cooper Walls showed up and he helped for a few minutes also. Things were moving along fairly well with the installation when Terry came back and indicated that they (Terry

Continued...

Observatory Corner... from previous page

and Jerry) had to leave and Cooper said he had run out of time also. While Jerry and Cooper were helping me with the AC unit installation, Robert Menius showed up to perform his Site Duty. Since the others were leaving, I hooked Robert into helping me. We completed the installation and turned the AC unit ON. I then discovered that while the AC unit was not very expensive, it did have fancy controls in it. Read microprocessor controlled controls. This means that we cannot run it with our existing control system, which uses an external Thermostat to control the power to the AC unit. Normally we just set the AC unit to ON and let the external thermostat control the cycle. The new system didn't like the power being cycled on and off to control the temperature, so we later plugged the new AC unit directly into the power (excluding the old thermostat) and just set the AC thermostat for 80 degrees. Please don't mess with the temperature controls.

It seems we have a problem with the West Bathroom urinal. It isn't working - when it is flushed the water flow doesn't stop. This of course, is not good. What we need is someone who knows how to fix a Urinal. Would such a person know how to fix a urinal please contact me? We desperately need some help on this matter.

The last item on our list of fun things is the Randalls report. For the First Quarter of this year, January 1st through March 31st, we spent a total of \$10,123.33 at various Randall's stores. This spending spree resulted in a check (not yet received) of \$101.23, which will be split 50/50 between the Observatory Fund and the club General Treasury. Our account will zero out and started over again on April 1st. So please link your Randalls card to the Houston Astronomical Society so that the society can benefit from this 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. We are also in the process of getting a Kroger number that does the same thing at Kroger. In fact Bill Leach is actively working on this activity and should have some good news to report soon.

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.

A Partial Solar Eclipse before Sunset

by Leland A. Dolan

Late on the afternoon of Monday, June 10, 2002, the Sun will undergo a partial eclipse, lasting about fifty minutes through sunset. However, before discussing the eclipse, I want to mention some words of CAUTION for beginners, as well as those observers who rarely observe the Sun. The Sun is a marvelous object for observation; the only star whose surface features are visible in a telescope. But without proper safeguards, the telescope pointed at the Sun can blind the observer. Here are a couple of “don’ts”. The most common mistake is to look at the sun through a piece of glass covered with soot from a candle flame. While this makes the Sun appear dimmer in visible light, it allows too much infrared “heat light” to reach your eye. Most dangerous of all are those solar eyepiece filters that are often supplied with cheap refractors. The objective lens (or mirror) focuses the Sun’s rays onto the filter, heating it and causing it to break. If focused sunlight enters the eye, the tremendous heat and light can cause instant blindness before you can remove your eye from the telescope’s eyepiece.

Here some safe observing techniques for the Sun. If you have that cheap refractor, you can observe the Sun by using eyepiece projection. Chose a low power eyepiece and focus the Sun’s image onto a piece of white cardboard held about a foot from the eyepiece. Since the Sun’s projected image is about the same diameter as the telescope’s objective, it won’t set the card afire. Another technique is to use an objective filter. I use a Thousand Oaks glass filter, mounted in a metal cell. Since it fits loosely over the front of the telescope’s tube, I use removable tape to hold it securely on the top end of the telescope’s tube. These are rather expensive, but I would not recommend the cheap aluminized Mylar film sold at sporting good stores. Instead, you might get a coated film made by Baader Planetarium of Germany. This is of high quality, but you will probably have to make the cell, or have one made to hold it onto the telescope.

Continued...

A Partial Solar Eclipse... from previous page

Here are the details of the eclipse. During First Contact (7:29 PM), the Moon appears to take a “bite” out of the Sun. Sunset is about 8:20 PM, but this will vary somewhat with location. Unfortunately, for us the maximum eclipse will occur after Sunset. This table gives more details.

Solar Eclipse of June 10, 2002

Event	Time (CDT)	Alt.	Diam. Cov.
First Contact	7:29 PM	9.7	0
Intermediate	8:00 PM	3.5	0.451
Sunset	8:20 PM	0.0	0.629

For more information about this eclipse, see the article beginning on page 93 of the June 2002 issue of *Sky & Telescope*

Want Ads

For Sale: Takahashi Epsilon 160 f/3.3 astrograph on EM-100 mount with dual-axis drive, Meade-tele-extender, Celestron-reducer/corrector, Ebbco sextant, GBC power modular, spotting scope, posters, books, camera cookbook. Computer programs: Redshift2, Solar System Explorer, Orbits Solar System, Ez Cosmos. Tapes: Flying By the Planets, Nasa-Planet of the Night Sky, One Small Step for Man {Apollo 11-17}, Special Overture. Astronomy books

Electronic test equipment: Signal generator, 520 transistor tester, Function Generator, Frequency counter, Oscilloscope, Power supply

Asking \$4,500 for the telescope and mount

Asking \$5,500 for the whole package of astronomical items

Asking \$ 350 for the electronic test

I would like to sell all of this together if possible but would consider selling these items separate.

Juanita Ellis—409-945-6375 Staroftxs@aol.com

How Far Can You See?

from Brad Schaefer's presentation at the TSP

by Bill Pellerin, GuideStar editor

Brad Schaefer's talk at the TSP was very informative, and I want to share with you some information he presented about visual limiting magnitude for various sized telescopes. Brad showed that the VLM is proportional to telescope size (no surprise), and magnification. He showed us a chart that indicates:

Scope Diameter	VLM at x50	VLM at x100	VLM at x300
4"	12.8	13.1	n/a
8"	13.8	14.2	14.7
16"	14.7	15.3	16.0

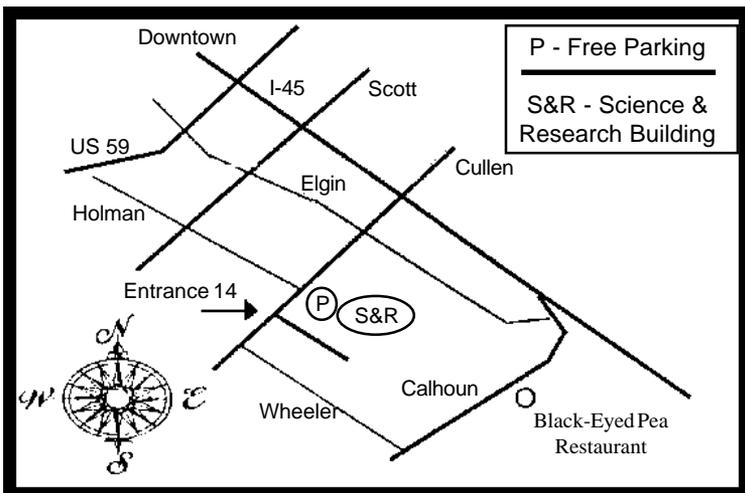
These numbers are approximate (based on a graph he handed out at the presentation) but they show that at low magnifications, the VLM is limited. As the magnification increases, the VLM increases, but increasing magnification has more of an effect at lower magnifications than at higher ones. At some point, increasing the magnification further will only have a marginal benefit.

Double Star Visibility Study

Brad also issued a challenge. He provided us with a "Double Star Visibility Study" list. The idea is to observe the double stars and to provide him with the results of those observations. He asks that you estimate the separation of the double stars, the PA (position angle between the two stars) and the delta magnitude (difference in magnitude between the two stars), and report that information to him. I don't have an electronic copy of the list, but I hope to be able to bind the list into the center of this issue of the GuideStar. If it's not there, come to the June meeting for a copy.

This should be a lot of fun. Most of the time when we observe double stars we know what we're looking for. Perhaps it's two stars of about equal magnitude separated by 10". Knowing this information we can determine what magnification is needed to 'split' the double. In this case, you won't know the separation or the magnitude of the two stars, so it'll be a bit more of a challenge to make the observations.

I haven't observed these yet, so I don't know if they're visible from city skies, or if dark skies are required.



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.

Board of Directors Meeting

The Board of Directors Meeting is held on dates scheduled by the board at 7:00 p.m. in Room 106 of the Space Science Building at Rice University. Call StarLine for Board Meeting information. 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*s 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*s 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 ASCII text, MS-Word (preferred), or WordPerfect format on an IBM format floppy or via AOL (BILLP10566). Mail copy to the address shown on the outside cover or to the editor at 256 East 5th Street, Houston, TX 77007. 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.

Editing & Production: Bill Pellerin, 713-880-8061; FAX: 713-880-8850;

AOL: BILLP10566; Internet: BILLP10566@AOL.COM

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