



August, 1998

At the August 7 meeting...

James Wooten
**Houston Museum of Natural
Science**

...the planetarium astronomer at the HMNS will talk
about how constellations and asterisms got their
names.

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.

H.A.S. Web Page: <http://spacsun.rice.edu/~has>

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: 409-732-8967

★★★★★ **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 and past president** ★★★★★

President: Don Pearce H: 713-432-0734	Treasurer: Bill Flanagan H: (713) 699-8819
Vice Pres: Kirk Kendrick H: 281-391-3834	Past-President: Allen Gilchrist H: 281-558-1190
Secretary: Matt Delevoryas H: 713-795-0808	

★★★★★ **Additional Board Members** ★★★★★

	Liaison responsibility
John Blubaugh 713-921-4275	Publicity, telescope
Jay Levy 281-992-2708	Program, Field Trip/Observing
Warren Wundt 713-697-2960	Audit, Program, Field Trip/Observing
Tom Fox 281-358-5419	Education, Welcoming

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

Audit Mike Gumler 409-938-4793	Program John Chauvin 713-981-8281
Education James Benthall 713-669-0838	Publicity Marg Nunez 713-529-2549
Field Tr./Obsg. Kenneth Drake 281-367-1592	Telescope Clayton Jeter 281-383-1337
Novice Mitchell/Goldberg 713-461-3020	Welcoming Susan Spore 281-493-2614
Observatory Michael Dye 281-498-1703	

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

Historian Leland Dolan 713-529-0403	Publ. Star Party Marg Nunez 713-529-2549
Librarian Peggy Gilchrist 281-558-1190	Rice U. Coord. Matt Delevoryas 713-795-0808
Logo Mds Sales Judy Dye 281-498-1703	Schedule Obs'v'ty Steve Goldberg 713-721-5077
Long Range Plan Don Pearce 713-432-0734	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.
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★★★★★ **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 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 \$27/year, *Astronomy* mag \$24/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. No new members this month.

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	Kenneth Drake	281-367-1592
Lunar & Planetary	John Blubaugh	713-921-4275
Occultations & Grazes ...	Wayne Hutchison	713-827-0828

The President's Message



One of the advantages of belonging to the Houston Astronomical Society is experiencing the quality of our programs. Over the years that I have been a member I have heard many fine programs. We have had presentations from a wide variety of disciplines, notably and logically, professional astronomers, astrophysicists, and cosmologists. We have had presentations from astronauts, meteorologists, chemists, and mathematicians.

We have had representatives of both major national astronomy publications give presentations. Some of the best presentations have come from amateur astronomers. We have had successful comet hunters bring us programs. And not to be overlooked are the many fine presentations from our own members.

I want to encourage all of you who read this but rarely come to our meetings to start coming. Some of the programs for the upcoming months:

- September- Dr. Laura Barge, Houston Baptist University- Saturn's Rings
- October- Dr. Brent Archinal, Naval Research Laboratory
- November- Dr. Paul Scowan, University of Arizona
- December- Dr. Anita Cochrine, University of Texas

By the time you receive this, I will be returning from a mini-star party at Ft. Griffin.

Clear skies and le croissant lunaire

Don Pearce

Houston Astronomical Society

***Meeting Notice
For Friday, August 7, 1998***

James Wooten

***...planetarium astronomer at the
Houston Museum of Natural Science
will tell us how constellations and
asterisms got their names.***

***Mr. Wooten has two bachelor's degrees
from M.I.T. and a masters from Rice.***

*The programs for the remainder of the year are now set.
See the H.A.S. WEBSITE for details.*

Schedule of meeting activities:

Novice meeting: 7:00 p.m.

The topic for the Novice meeting will be:

Astrology: Astronomy's Nemesis or Namesake?

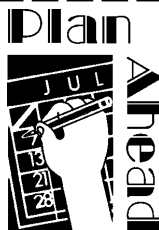
The horoscope portends a discussion to be enjoyed by HAS members of all zodiacal signs.

Site orientation meeting: 7:00 p.m.

General meeting: 8:00 p.m.

See the inside back cover for more information.

August Calendar:



<i>Date</i>	<i>Time</i>	<i>Event</i>
3	1:00 a.m.	Uranus is at opposition
7		HAS Club Meeting
	7:00 p.m.	Novice Presentation - U of H
	8:00 p.m.	General Membership Meeting - U of H
8	0:33 a.m.	Full (Green Corn) Moon
10	1:00 p.m.	Sun enters constellation of Leo
12		Perseid meteor peak
14	2:50 p.m.	Last Quarter Moon
15		Members Observatory Night
22	10:03 p.m.	New Moon
		Prime Night - HAS Observatory
30	0:07 a.m.	First Quarter Moon
31		Mercury at greatest western elongation
All Month		Milky Way overhead -- great time for viewing our home galaxy at its best!

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

HAS Web Page

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

The address is: <http://spacsun.rice.edu/~has>

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 me, Steve Goldberg (WebMaster), at 713-721-5077.

Astronomy Day



Astronomy Day is September 26, 1998. The event is from 3:00 pm till 10:00 pm at the George Observatory, which is in Brazos Bend State Park. Several positions are available for persons who would like to help. For example: Challenger Center, publicity, exhibits, tables and chairs, solar telescopes, and night scopes, computers for displays, loading and unloading, two-way radios are needed, and someone to take care of the equipment and see that it is all there and ready.

Any one who would like to fill these positions, please call Judy Dye at 281-498-1703, or E-mail me at one of these two addresses: judydye@hotmail.com or mbdye@aol.com. You may also volunteer by contacting HAS members Tom Fox and Warren Wundt.

Volunteers from any area club (FBAC, JSCS or Beaumont) are invited to participate as well.

There is an urgent need for someone to do publicity for the event. This task involves contacting TV stations, radio stations, and newspapers to make sure that they have the information they need to announce the event.

Other Meetings...

Brazosport Astronomy Society meets at 7:00 p.m. on the 2nd Thursday of each month in the Planetarium of the fine Arts Center at Brazosport College. Call Steve Lamb for program details (409) 297-3984

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

Johnson Space Center Astronomical Society meets in the the Lunar and Planetary Institute on the 2nd Friday of each month.

Double Star Observer

Editor's comment: This information is from an Email I received. Many of you have an interest in double stars, so the information is being included in this GuideStar.

Devoted entirely to visual double star observing

Founded, Edited, and Published by Ronald C. Tanguay

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Established in 1993

Dear Friends in Astronomy:

The purpose of this letter is to bring to your attention the publication of the *Double Star Observer*. The *Double Star Observer* is an international, amateur/professional, quarterly journal dedicated to the task of promoting interest in the observation of visual double stars. It is one of the world's few publications devoted exclusively to this field of astronomy. The *Double Star Observer* is quickly becoming recognized and respected worldwide by both amateur and professional astronomers.

The observation of visual double stars is one of the most neglected areas in both amateur and professional astronomy. Nevertheless, this does not signify that it is no longer an important field of study in astronomy and astrophysics. The calculation of double star orbits, based on measurements of separation and position angle, along with parallax measurements, is still the only way by which to determine the absolute

Continued on page 12...

Observatory Corner



By Michael B. Dye Observatory Chairman



The Houston Astronomical Society Annual Picnic is scheduled for Saturday, October 10th, 1998. This year's Picnic Committee Chairman is Larry Wadle. After some research, Larry selected Fishbeck's Catering of Weimer, Texas, to cater the Picnic. The price will be \$4.50 per person. The menu includes Bar-B-Q Beef and Sausage, Potato Salad, Beans, Cole Slew and Ice Tea. The standard trimmings and condiments will be provided i.e., Bread, sauce, pickles, onions, jalapeno etc. We expect to start serving the main meal at about 5 PM. We expect to have the same recreational and telescope viewing activities we have had at all the previous picnics. With the addition of the new Bar-B-Q grills, those members who do not want to have their food catered, can cook their own. To use the grills, Charcoal must be provided. The society does not supply it.

The Annual Picnic will also serve as the Roll Out (new phrase curtsy of Microsoft) of the new Storage Building, the new Dob Telescope, and the new Bar-B-Q grills. While only one of these activities is complete (the Dob Telescope), I expect the other two to be complete by the time of the Annual Picnic. In addition to the double Bar-B-Q grill set behind the Bunkhouse, we will also install a third large Bar-B-Q grill East of the Picnic Table between the Bunkhouse and Logan's Glen and a fourth Bar-B-Q grill in Logan's Glen. All of these Bar-B-Q grills were donated.

October 10th is also Members Observatory Night. All members are urged to contact Larry Wadle and sign up for the picnic. Members are encouraged to bring family members and guests to this annual activity.

Two Saturdays before the Annual Picnic will be Astronomy Day, which, like last year, will be held at the George Observatory. If you would like to help in this annual 'show the public Astronomy" event please contact

Continued...

Observatory Corner... from previous page

Tom Fox, Warren Wundt or Judy A. Dye. All of their phone numbers are in the *GuideStar* inside front cover. Please come and help make Astronomy a success.

With the close of the Third month of the 1998 Observatory Site Fund Raising Drive, the amount raised still remains at \$4,336.00. This is my subtle way of pointing out that we did not receive any donations this past month. The fund raising drive continues and as I said before no donation is too small. If you use and enjoy the Observatory Site, please donate to the Observatory Committee so that we can continue to add improvements to the Site and the Facilities. All donations are tax deductible and receipts will be issued by January 31, 1999.

The Observatory site was occupied by only a few members the evening of July 18th and 19th. This is really a pity because while the viewing wasn't TSP quality, it was good. Peggy Gilchrist spent the evening from 09:30 to 02:30 (A.M.), about five hours, watching the sky for meteors. She saw 18. Allan spent the evening taking CCD images except for the short time I drafted him and Ed Szczepanski as guest lectures to entertain some members of the Columbus Chamber of Commerce whom I had invited to the Observatory Site. I would like to also thank Dana Lambert and Glen Ray who helped the Columbus guests observe through the Observatory Telescopes. The point of this paragraph is even though the skies in Houston are bad, call the Observatory Site and see how the skies look there. You may be able to do some astronomy despite the bad skies at Houston.

***Please fill out the appropriate log form
when you use the site.***

Telescope Loaner Program

By Clayton L. Jeter

.....a favor to ask of you

The loaner telescope program has really been busy this summer! My phone has been ringing off the wall for weeks. My neighbors wonder... what's going on in the Jeters' driveway. Why do vehicles always back in... load up funny looking equipment, then leave in a hurry. Just what is this guy up to? My neighbors now turn away when I try making eye contact with them.... Ha!

At the present time, most of the telescopes are loaned out. Fear not... several are due back in the next few days. No problem.

I do have a teeny, tiny favor to ask of you wonderful society members that are so very generous.... two of our loaner telescopes are without eyepieces, and several have only one ocular. Our C-11 is without a 1 1/4" star diagonal, and is almost impossible to use without standing on your head. The club's Celestron C-6 is in dire need of a .965 cross-hair reticle for its 60mm guide scope. Perhaps you have an old eyepiece that you never really even use. Please give me a call and we will supply our loaner telescopes with those much need items from your thoughtful giving. Thanks so very much. Call: 281-383-1337

cloudless nights.... always, Clayton

**GuideStar deadline for the September issue
is August 15**

Double Star Observer.. from page 8

masses of stars. This information is of vital importance to the development of theories in the field of stellar evolution. However, despite its importance, few professional or amateur astronomers are interested in observing visual double stars.

This situation is indeed unfortunate, as there are only a small number of professional astronomers worldwide who are currently measuring visual double stars. The observation of visual double stars is being neglected by both amateur and professional astronomers in favor of other areas in astronomy and astrophysics. Therefore, astronomy may lose an important source of astrophysical data, if more amateur and professional astronomers do not become interested in the observation and measurement of visual double stars.

Currently, speckle interferometry has largely replaced the filar micrometer for the measurement of pairs under 2".0 separation. However, the number of trained observers and observatories equipped with speckle instrumentation is very limited. A few observatories are actively measuring the wider pairs by photographic means, but these observatories are also limited. There are only a few professionals left who still measure visual double stars with micrometers. The Washington Visual Double Star Catalogue, 1996.0 lists data for 78,100 pairs. There are simply too many pairs and too few observers for the professionals to handle all of the measurements themselves. Therefore, the observation of visual double stars is wide open to amateur participation. It is one of the few areas of science left where the amateur can carry out important scientific work and make a valuable contribution to astronomy.

As I see it, the 21st century may see the measurement of visual double stars largely in the hands of a small group of dedicated amateur observers, working in cooperation with a few professional astronomers and institutions, using various types of micrometers and CCD cameras. The accurate measurement of visual double stars does not require the use of an expensive filar micrometer, nor costly CCD cameras and computer equipment, nor large observatory type telescopes. Accurate

Continued...

Double Star Observer.. from previous page

measurements of double stars can be made with an inexpensive diffraction grating micrometer. Accurate degree circles can be made using BASIC programs from *Sky & Telescope*. Amateur astronomers who own small, high optical quality, high resolution telescopes, such as refractors or Maksutovs, in the 3-inch (76-mm) to 7-inch (180-mm) aperture range, are in a unique position to observe double stars. The superior definition, resolution, and image contrast of these telescopes make them ideal double stars instruments.

Double star astronomy needs the support of both amateur and professional astronomers if it is to remain a productive area of astronomy. The data gathered by visual double star observers is still important to the fields of astronomy and astrophysics. Therefore, your help is needed if the *Double Star Observer* is to be effective in promoting interest in visual double star observing among amateur and professional astronomers. The *Double Star Observer* publishes articles on all phases of double star observing, including equipment, instrumentation, observing techniques, observations, measurements, ephemeride calculation, etc. at various levels from beginner to advanced, making the *Double Star Observer* interesting to a wide range of observers.

The subscription rates for the *Double Star Observer* are as follows:
United States - 1 year, US\$6.00; 2 years, US\$11.00; 3 years, US\$15.00.
Outside the US, rates are higher

The purpose of the low subscription rates is to encourage observers to subscribe to the *Double Star Observer*, thereby encouraging the involvement of amateur astronomers in the field of visual double stars.

The *Double Star Observer* is published four times a year in January, April, July, and October. The Summer 1998 issue (#14) is currently available. All back issues from #1 to #13 are also available.

The observation of visual double stars offers a challenging alternative to "casual" astronomy and presents a unique opportunity for the observer to engage in serious astronomical research. Indeed, we have

Continued...

Double Star Observer.. from previous page

If you agree that double star astronomy is important, then a subscription to the ***Double Star Observer*** will help make a contribution towards sustaining the field of visual double star astronomy. Please announce the publication of the ***Double Star Observer*** in your next newsletter or bulletin. You may also copy this letter and distribute it to other interested observers.

All checks or money orders should be made payable to the ***Double Star Observer***. Orders from outside of the United States should be paid with an international money order made out in U.S. dollars. Please send payment to: ***Double Star Observer***, c/o Ronald C. Tanguay, 306 Reynolds Drive, Saugus, MA 01906-1533, United States of America. Thank you for taking the time to read my letter and I hope to be hearing from you soon.

Best regards,
Ronald Charles Tanguay, Editor/Publisher, ***Double Star Observer***

Minutes... from page 22

There was brief discussion between the President and a few other members about the sealed bid auction of a pair of binoculars for the benefit of the Society, but the matter was postponed to March for lack of preparedness in February.

Field Trip and Observing Committee Chairman announced he would lead a field trip on February 21st in conjunction with the novice program, to depart Schobel's Restaurant parking lot in Columbus at 5 PM for the observatory site, at which there would be an instructional program on finding one's way around the sky.

The President announced that he and others on last Wednesday the 28th observed the 18^h 12^m crescent moon ending Ramadan. The previous morning, he and another observed the 17^h 2^m old crescent.

Leland Dolan noted that Margaret Nunez was not attending and he, as she routinely did, had brought some snacks but not beverages.

The meeting was adjourned without opposition at 9:55 PM.

B&Ps from the IAUCs

by *Matt Delevoryas*



Everyone knows that amateur astronomers hunt new comets entirely for its own intrinsic aesthetic and scientific reward. No comet hunter would even think of tarnishing the purity of the endeavor. Well, it's time to give up comet hunting; the tarnish has appeared. IAU Circular 6936 reports that under a bequest by Edgar Wilson of Kentucky, the Central Bureau for Astronomical Telegrams will yearly (each July, for periods ending June 11th) besmirch the good name of amateur comet hunting by forcing the amateur (or amateurs in case of a tie) who has his name on the most new comet discoveries to take money. That's right, this very next July some purely altruistic amateur will be compelled to suffer the indignity of an estimated \$20,000 cash! This monetary insult will not even be avoidable by a deliberate moratorium on amateur comet discoveries! If no amateur has his name placed on a comet, the CBAT will still force some innocent amateur to take the money, whoever they declare "to have made the greatest contribution toward promoting an interest in the study of comets." I can advise only two ways to be safe from this disgusting scheme: Arrange to be paid for your comet hunting so your discoveries do not have amateur status (but that wouldn't exactly avoid the taint of money!), or become a Smithsonian Astrophysical Observatory employee associated with the CBAT, or a member of the IAU's Small Bodies Names Committee, or a family member of such a person. Only these people have been granted immunity in advance.

IAUCs through 6963 report Nova Sagittarii (see May and April, p. 14 for earlier details) ended June at magnitude 11.3, so should continue to be of interest.

One final update from last June's (p. 14) article: Gamma ray burst GRB 980425 was suspected to be related to a supernova which would have to be "one of the most luminous radio supernovae discovered". IAU 6901 suggests that this supernova, now designated SN 1998bw, involved a collapse to a black hole instead of a neutron star. A report in IAU 6903 describes the radio emissions as having to be due to a relativistic shock

Continued on page 19...

Observatory Duty Roster

by Michael B. Dye, Observatory Chairman

This is the duty list for August, September and October. 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.

For August supervisor Logan Rimes 713 681-5397
Tom Williams Members Observatory Night 08-15-98
Barbara Wilson Members Observatory Night 08-15-98
Buster Wilson Members Observatory Night 08-15-98
Warren Wundt Site
W. Charles Barnes Site
John Blubaugh Site
Ken Carey Site
Ronald R. Carman Site

For September supervisor Logan Rimes 713 681-5397
John Chauvin Site
Art Ciampi Members Observatory Night 09-12-98
Mickey Davis Members Observatory Night 09-12-98
Kenneth Drake Site
Jean-Marc Follini Site
Fred Garcia Site
John Garza III Site
Clifton Goldman Members Observatory Night 09-12-98

For October supervisor Matt Delevoryas 713 795-0808
David Granadino Site
Michael Gumler Members Observatory Night 10-10-98
Chai S. Heng Site
David L. Herlinger Site
Gary Hlivko Site
John Huff Members Observatory Night 10-10-98
Wayne Hutchinson Site
Clayton L. Jeter Members Observatory Night 10-10-98

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.

Southern Sky Star Party

By Scott Mitchell

In early summer for the last three years, an intrepid band of amateur astronomers have trekked to the central high plains (*altiplano*) of Bolivia. There, on the shores of Lake Titicaca at an elevation 13,500 feet and skies of near-perfect darkness, we have set up our telescopes to observe the sights of the southern hemisphere. Since we can't see all

..it is startling to see --

*the Southern Cross,
Eta Carina
the Tarantula
the Magellanic Clouds*

the way south from our northern latitude here in Houston, it is startling to see so many new objects for the first time: The Southern Cross, Eta Carina, the Tarantula Nebula, the silvery Magellanic Clouds—all these rotate into view as the southern South pole hovers above the dark peaks of the Andes mountains in the distance.

This year's SSSP in June was great fun, even though we had some cloudy nights. After two years of consecutive total dark skies, *El Nino* wreaked its mischief even in this arid zone. One day it actually snowed (it's winter, of course, in the southern hemisphere). The first night we had a public star party for the local village kids, with about 100 showing up. And they brought their parents. And brothers and sisters. And grandmothers. And llamas. Not your usual star party.

During the days we took hydrofoil trips around Lake Titicaca, explored ancient ruins, went fossil-hunting on hillsides, toured the capital city of La Paz, and got to renew acquaintances with our Bolivian friends. The resort we stayed at is highly rated, and the meals were excellent. Next year's SSSP is scheduled for mid-June, with limited space available. If you are interested in seeing what the "other" sky looks like, contact me at STARSCM@aol.com.

Summer Total Occultations

By Matt Delevoryas

There are five particularly interesting occultations by the Moon (involving only four stars) during the summer months. Here's the information for these events as seen from Houston (times are CDT):



- August 7: As seen from various places on Luna, Sol (mag. -27) partially disappears behind the dark limb of the 0% illuminated Terra before 8:32 PM while in Houston the penumbra starts to fall on Luna 27° counterclockwise from the bottom edge while it is only 6° up, azimuth 111°, the greatest occultation occurs before 9:25 PM while in Houston the penumbra falls on Luna 34° counterclockwise from the bottom edge while it is 16° up, azimuth 119°, and completely reappears from behind the dark limb after 10:18 PM while in Houston the penumbra leaves Luna 52° counterclockwise from the bottom edge while it is 25° up, azimuth 127°.
- September 6: As seen from various places on Luna, Sol (mag. -27) partially disappears behind the dark limb of the 0% illuminated Terra after 4:14 AM while in Houston the penumbra starts to fall on Luna 19° clockwise from the top edge while it is 32° up, azimuth 236°, the greatest occultation occurs after 6:10 AM while in Houston the penumbra falls on Luna 74° clockwise from the top edge while it is 10° up, azimuth 254°, and completely reappears from behind the dark limb after 8:06 AM while in Houston Luna is 13° below the horizon.
- September 9: Nu Piscium (mag. 4.4) disappears behind the dark limb of the 89% illuminated waxing gibbous moon before 12:57 AM 48° counterclockwise from the north cusp, moon 42° up, azimuth 112°. (Reappears after 2:00 AM 72° clockwise from north cusp, moon 54° up.)
- September 10: Mu Ceti (mag. 4.4) is missed entirely by the Moon as seen from central Houston, and from 25 nautical miles north of

Continued...

Summer Total Occultations... from previous page

there. However, 50 nm north of downtown does see an occultation (in theory, this can be observed in between as a bright limb grazing occultation). From there, star disappears behind the bright limb of the 79% illuminated waning gibbous moon after 4:44 AM 17° clockwise from the south, moon 70° up, azimuth 177°. It reappears from behind the bright limb after 4:52 AM 6° clockwise from south cusp. The star is a close occultation double which was still unresolved by speckle interferometry as of 15 years ago.

- September 12: Alpha Tauri (Aldebaran) (mag. 1.1) reappears from behind the dark limb of the 58% illuminated waning gibbous moon before 2:16 AM 39° clockwise from the north cusp, moon 30° up, azimuth 87. (Disappears after 1:45 AM 19° counterclockwise from north cusp.) Aldebaran has a close mag. 13.5 companion 31" away, and an 11.2/13.6 2" pair 122" away.

B&Ps from the IAUCs... from page 15

and the optical emissions due to a separate low velocity shock. Spectroscopy in IAUC 6918 shows the supernova to be type Ic, but with specific details making this object unique. IAUC 6969 has discussions of further spectral and polarization data. The light of the supernova is moderately polarized, but in a way which varies at the emission lines (indicating that the polarization is intrinsic, not introduced as the light travels to us) investigations by two groups. The moderate magnitude of the polarization supports the idea that the supernova is type Ic, but peculiar. They conclude, though, that there is no strong evidence that supernovae can emit gamma ray bursts, as the gamma rays could have been generated in the surrounding environment by a relativistic shock.

Houston Astronomical Society

General Membership Meeting February 6, 1998

by Matt Delevoryas, Secretary

President Don Pearce called the meeting to order at 8:05 PM in Science & Research room 117. 115 members and guests were present as the meeting began.

The President welcomed the audience and remarked on the monthly meetings of the Society, and the monthly novice meetings and observatory site orientation meetings.

The President recognized five people in the assembly who had become members since the January meeting, and the approximately five visitors in the room. New members were encouraged to meet Welcoming Committee Chairman Susan Spore.

The President described the Society's Columbus observatory facilities and some details of gaining their use.

The President thanked Bill Pellerin for his ongoing editing of the *GuideStar*, and the Lamberts for their past work assembling and mailing *GuideStar* through the last issue, which had to come to a halt. He then solicited from the audience four volunteers to do the publication work for the March issue of *GuideStar*. Then he reviewed some Society benefits: *GuideStar*, Starline, the Web pages, and astronomical magazine subscription discounts. He reviewed the dues for the various classes of membership, announced that he would become a sustaining member at his next renewal, and encouraged everyone in the Society who heavily uses the site to become a sustaining member too.

Telescope Committee Chairman Clayton Jeter announced that all dozen Society loaner telescopes were lent but some would be returning from loan, and available, in about a week. He then solicited cast off eyepieces to supplement, or even become, the eyepiece complement for a loaner telescope. except for an 8" Coultter just returned and to be lent again imminently. Any member interested in borrowing one was encouraged to telephone Clayton.

The President stated that there were no known major schedule conflicts with the use of first Fridays for Society meetings except for July and September (and Easter did not conflict with the first Friday of April). He suggested changing the July 3rd meeting to July 10th (because of the Fourth of July) and the September 4th meeting to the 11th (because of Labor Day weekend). A member noted that second Fridays conflict with JSCAS meetings and third Fridays

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would avoid this, but others noted that this would conflict with FBAC. Another member suggested that the Society had moved a meeting to the “zeroth” Friday (the last of the previous month), conflicting with nothing. The President took straw polls concerning his proposed July and September changes, which were supportive of the former, and opposing the latter. John Chauvin moved to schedule the July meeting on the 10th. The motion was seconded, and passed without further discussion.

The President announced that for 1998, Drs. Dufour and Pinsky would be Advisory Directors of the Society. He also announced Directors-at-Large serving as Board liaisons to the standing committees: Warren Wundt, Audit; Tom Fox, Education; Jay Levy, Field Trip & Observing; Steve Goldberg, Novice; Steve Goldberg, Observatory; Jay Levy and Warren Wundt, Program; John Blubaugh, Publicity; John Blubaugh, Telescope; and Tom Fox, Welcoming.

Novice Committee Co-Chairman Amelia Goldberg asked Jay Levy to step forward, to receive his certificate, number 88, and pin, for the Astronomical League’s Lunar Club. She asked for Charles Foyt, who was not present.

Member James Berry announced that he was working on a device, an eyepiece attachment, intended for observers who need eyeglasses for astigmatism correction when observing. He solicited beta testers for his device.

After noting the interest in the impending total solar eclipse, Advanced SIG Vice Chairman John Blubaugh announced that the program for the February 17th Advanced SIG meeting in Rice University Sewall Hall room 305 at 7 PM would be Art Ciampi speaking on eclipse photography. Questions could be addressed to SIG Chairman (and Society Treasurer) Bill Flanagan.

Ricardo Palmeira mentioned he had a sample of NASA’s eclipse bulletin, available on request from NASA, for the August 11, 1999 total solar eclipse.

Comet SIG head Kenneth Drake mentioned four comets noteworthy for observation, 55P/Tempel-Tuttle and 103P/Hartley 2 in the evening both running a magnitude brighter than predictions, and in the morning, C/1997 T1 Utsunomiya two magnitudes brighter than expected, and C/1997 J2 Meunier-Dupouy a half magnitude brighter than predicted. Kenneth and another member briefly discussed comets 29P/Schwassmann-Wachmann I and 69P/Taylor being in outburst, coming into faint amateur observability.

The President reminded the assembly that the 1998 annual banquet would be the following day at the Quail Valley Country Club. It was announced that the

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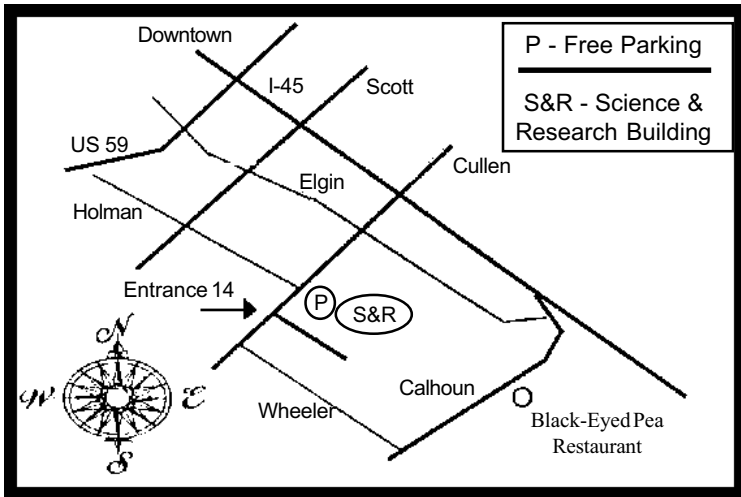
speaker would be Dr. Joe Hahn, speaking on comets and their origin.

Education Committee Chairman James Benthall asked for volunteers for his committee's speaker's bureau, especially if able to volunteer during the day.

Program Committee Chairman John Chauvin briefly postponed introductions, and distributed red/blue 3D viewing glasses for observing the presentation. He introduced speaker Dr. Paul Shenk, staff scientist at the Lunar and Planetary Institute for the past seven years, with a Ph.D. in planetary geology from Washington University (and not personally financially benefiting from any sales of the CD-ROM from LPI he would mention!). Dr. Shenk explained he would be presenting work from two years of work by himself and others at LPI, in a project beginning five years ago when he realized there was a large collection of three dimensional planetary imaging information in existence, but sitting idle, unused. They prepared images by selecting two separate images from the same spacecraft from different locations, and combining them by computer into a red/blue stereoscopic pair. He showed individual separate images, with their differences, and their combination into a stereo image. He showed three dimensional imagery of Rhea, Io, the Sun in X-rays, Mercury, Venus, Earth, Moon, Mars, Phobos, Miranda, Pluto and Charon, a solar system orbit diagram, and the first footprint on the moon. During the presentation, he noted that this three dimensional imagery was originally to measure heights of objects, but they also serve to aid recognition and understanding of the features in the image. Throughout, he discussed the structural geology visible in the images. The images presented were among those on a CD-ROM available for purchase from LPI (3600 Bay Area Boulevard, Houston, TX 77058), with more information available on the WWW at <http://cass.jsc.nasa.gov/lpi.html>. At the web site, about 20 samples from the CD-ROM are available for viewing with the same glasses used to view the evening's presentation. After completing the presentation, he entertained many questions from the audience.

Matt Delevoryas spoke about Supernovae 1997ff and 1997fg, announced in the IAU Circulars in January, the naming of supernovae, and the large number discovered in 1997. The December I magnitudes were 23 and 25 of these Ursa Major supernovae ... situated in the Hubble Deep Field, and discovered in the recent reimaging when compared with the original image. These most distant supernovae and other distant type Ia supernovae had been used recently as standard candles to examine possible deviations from the Hubble relationship due to the deceleration of the expansion of the universe, and the results at the January AAS meeting indicate the universe is open, lacking critical mass.

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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.

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* 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 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 second Friday 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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