



November, 1998

At the November 6 meeting...

Dr. Paul Scowen

**Recent advances in understanding the physics of
nebulae and application of this knowledge to
giant nebulae in nearby galaxies.**

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.
---------------------------------	-------------------------------

★★★★★ 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 \$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.

Table of Contents

4	The President's Message	14	B&Ps from the IAUCs
5	Meeting notice	15	School Star Party
6	November Calendar	16	Observatory Duty Roster
7	Other Meetings	17	Comet Giacobina-Zinner
8	1999 Nominations	18	Comet Harrington-Abell
9	If You Missed...	19	Comet C/1998 M5 LINEAR
10	Observatory Corner	20	Comet C/1997 J2 Meunier-Dupouy
12	Astronomy mag price increase	21	Fourth Quarter Total Occultations
13	Logo Sales		
	HAS Web Page		

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



This month I want to focus on how we can, as a society, do more to welcome and assimilate our newer members.

Over the years we have relied on the Welcoming Committee to bear the brunt of that responsibility. However, during the last year or so, for various reasons, the Welcoming Committee has become largely non-functional.

It also has become apparent that many of our newest members have joined as a result of their learning about HAS through our web-site (again thanks to our webmaster Steve Goldberg). Whereas in the past, most new members joined as a result of either having a friend or acquaintance in HAS, many of these new members may not, initially, know anyone in HAS. I think it is particularly important that, given this situation, that we do everything possible to ensure that our new members feel “welcome” and “at home” in HAS.

Therefore I propose that our Executive Committee and at-large Directors do everything possible to introduce themselves to our new members, and help them integrate into HAS. For 1999, I propose that the new Welcoming Committee, with help from the Board, develop a “New Member Kit”, (as I received when I joined HAS in 1984), and truly function as a “Welcoming Committee”. It is not only our duty, (and the right thing to do), but assists HAS down the road with membership retention and budgeting issues.

Clear skies and le croissant lunaire

Don Pearce

Houston Astronomical Society

*Meeting Notice
For Friday, November 6, 1998*

Dr. Paul Scowen

Arizona State University

Recent advances in understanding the physics of nebulae and application of this knowledge to giant nebulae in nearby galaxies. The talk will incorporate some of the knowledge gained from study of the Eagle Nebula, some basic star formation concepts, and some physics, and the application of what we've learned to other, much larger nebulae in nearby galaxies.

Schedule of meeting activities:

Novice meeting: 7:00 p.m.

Site orientation meeting: 7:00 p.m.

General meeting: 8:00 p.m.

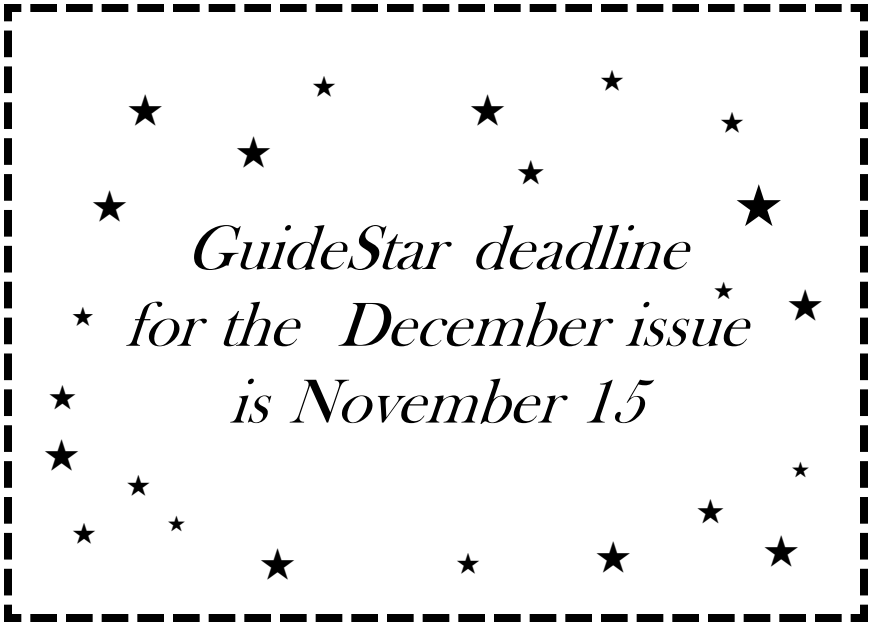
See the inside back cover for more information.

November Calendar:



<i>Date</i>	<i>Time</i>	<i>Event</i>
November		
3	11:19 p.m.	Full Moon, and closest perigee of 1998, expect very high tides
6		HAS Club Meeting
	7:00 p.m.	Novice Presentation - U of H
	8:00 p.m.	General Membership Meeting - U of H
11	6:29 p.m.	Third Quarter Moon
14		Members Observatory Night-Columbus
17	1:00 p.m.	Leonid Meteor Shower Peaks
	7:00 p.m.	Advanced SIG Mtg.-Rice Univ., contact Bill Flanagan, 713-699-8819
19	10:27 p.m.	New Moon
21		Prime Night-Columbus
26	6:23 p.m.	First Quarter Moon
December		
3	11:19 p.m.	Full Moon
4		HAS Club Meeting
	7:00 p.m.	Novice Presentation - U of H
	8:00 p.m.	General Membership Meeting - U of H
12		Members Observatory Night-Columbus
13	11:00 p.m.	Geminid Meteor Shower Peaks
15	7:00 p.m.	Advanced SIG Mtg.-Rice Univ., contact Bill Flanagan, 713-699-8819
18	4:43 p.m.	New Moon
19		Prime Night-Columbus
21	7:56 p.m.	Winter Solstice, Winter begins
26	4:46 a.m.	New Moon

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



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. 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>

Houston Astronomical Society

1999 Nominations

Officers:

President: Don Pearce
Vice President: Kirk Kendrick
Secretary: Matt Delevoryas
Treasurer: Bill Flanagan

Directors:

Bill Leach
Barbara Wilson
Jay Levy
Bill Molinare

Committees:

Novice

Jose Sancho & Susan Spore
(running as co-chairpersons)
Frank Vazquez
Bill Leach

Publicity

Michael Cubstead

Program

<none>

Observatory

Mike Dye
Howard Leverenz

Telescope

Clayton Jeter

Education

Bill Leach
Debbie Moran
Ron Carman
Michael Cubstead

Welcoming

Marg Nunez

Field Trips

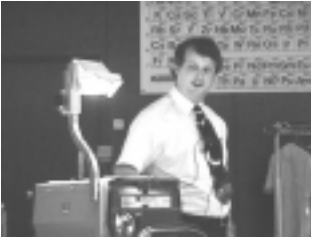
Kenneth Drake

Audit

Orv Wiens

It is the officers, committee leaders, and volunteers that make the organization work. If you can help the organization, please let one of the officers know. It's a great way to get involved, meet your fellow members and make a contribution to the operation of the HAS. Note that the 'Program' committee leader position is still open. Can you help?

If You Missed Last Month's Meeting...



You missed an outstanding presentation by Dr. Brent Archinal, astronomer in the Earth Orientation Department of the U.S. Naval Observatory in Washington. He has been working on establishing with high precision, the position of the stars (from which we can determine the position of the earth).

You also missed (in the novice presentation) a demonstration by Scott Mitchell of how large stars 'explode' at the end of their lives. The demonstration involved a basketball, a chair and another (smaller) ball. The demonstration showed how the larger ball could impart substantial momentum to the smaller ball as it (the larger ball) hit the floor.



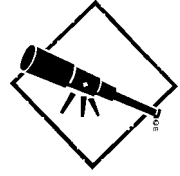
Finally, here's a picture of Larry Wadle telling the membership about the picnic scheduled for October 10th. Larry volunteered to help the HAS with the picnic and did a super job putting the event together.



.and... For the mystery of the month. Since our meetings are held in U of H classrooms there is often something interesting left on the blackboards from the day's classes. Here's what was on the board. Anybody got any idea what this is about?



Observatory Corner



By Michael B. Dye Observatory Chairman



Believe or not, the Houston Astronomical Society Observatory Site now has an address - for 911 calls only. The new address is 1667 County Road #215. I talked to Jim Alexander, who is the county clerk of Colorado County. I asked him how he assigned the address numbers and he explained that he started at the North end of CR 215 with #1 on the left and number 2 on the right. About every 58 feet, he added another address set. This address is good only if a 9-

1-1 response is required at the Observatory Site. This is not a mailing address until approved by the U. S. Post Office. Which should be interesting if we start getting mail there. To make this message short, use the above address only if you call 9-1-1 from the Observatory Site and need help sent there (to the site).

As of the Annual Picnic, both of the new 12.5 inch f4.5 Dobsonian telescopes are ready for service. After a conversation with Matt Delevoryas, we have decided that a short user course would be required to use these telescopes. The objective of this course of instruction would be to familiarize the user on how to use a Dobsonian telescope. It would help some if the student knows how to use a Dob to start with. Please contact Steve Goldberg to sign up for the course. His phone number can be found in the inside front cover of *GuideStar*.

I would like to thank Ed Szczepanski for his labors on the 19th of September in helping to get the Observatory site ready for the crowd that did not arrive. Ed is becoming an expert at driving the lawn mower around the pad area. It would have probably been nice if more people had showed up to use the site.

The three or four days before the Annual Picnic were effectively a work week. We had some of the most wonderful weather at the site. The days were clear and cool and the nights were also cool and mostly clear. There

Continued...

Observatory Corner... from previous page

was one large light violation each night, but as the week wore on the violation started later and later each night. (in fact about an hour later each night).

I wish to thank the following people who helped with the following activities:

1. Installed Bookcase in new building - anonymous
2. Buried new power wires between the East and West power poles and the Southwest Power Pole Ed Szczepanski, Marge Nunez, Gary Hlivko, and anonymous.
3. Mowed grass and weedeated around pads and picnic area - Ed Szczepanski, Gary Hlivko, and anonymous.
4. Painted the exposed wood (first coat) on the new building. - Carl Sexton.
5. Changed Blades on Lawn Mower - Gary Hlivko and anonymous.
6. Raked Gopher Mounds into the grass - Chai S. Heng.
7. Cut Grass from around fence line - Leonard Raif and David Herlinger.

On Thursday night David Herlinger brought some of his students from Langham Creek High School in the Cy-Fair ISD to view through the scopes in the Observatory. I talked to David later and he said that he would like to thank the two people who helped him with the students, Ed Szczepanski and Orville Wiems. Ed allowed the students to look through his Dob telescope while he (Ed) explained what they were observing. Orville operated the telescopes in the Observatory while David was instructing. This activity continued until the moon rose and killed the sky.

The Annual Picnic itself was a success. We had about 50 to 75 people for the catered food. Most of the games were skipped except for the Pinata which was run by Mary Lockwood. Instead we all sat around in folding chairs and just visited. Ed Szczepanski had a non-catered meal of Hot Dogs and Hamburgers for those who forgot to bring their own food. I

Continued...

Observatory Corner... from previous page

ended up going to bed about 22:30 and did not see the end of the night. I was told the moon killed the sky about 00:30 or so.

We had two groups of visitors at the Annual Picnic, Logan Rimes and Charlie Thomas brought about thirteen associates from work (Thomas Photo Lab) including customers and friends. David Herlinger came back on Saturday to provide some of the teachers of Langham Creek High School the same opportunity that the students had. There was about 10 to 12 adults in his group. We had Matt Delevoryas, John Huff and Clayton Jeter operating the Telescopes in the Observatory for the Members Observatory Night activity. This group was able to provide viewing and information to all members and guests who came into the Observatory to view.

All in all, I would like to thank the Society members who helped to make this annual event possible including the members mentioned above and to include Larry Wadle who found a new caterer for the food.

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

Price of Astronomy magazine goes up

The price of purchasing a yearly subscription to *Astronomy* magazine through the Houston Astronomical Society has changed from \$24 to \$29. If you wish to subscribe to *Astronomy* or to *Sky & Telescope*, please see the Society's Treasurer.

HAS Logo Sales

by Judy Ann Dye

If you are interested in any of the following items and would like to place an order, please contact me (Judy Dye) at 281-498-1703, or send a check for the items requested to 12352 Newbrook, Houston Texas, 77072-3910. Below is the current list of logo items for sale:

WHITE SWEATSHIRT W/BLUE STARS	\$ 13.00
GREY HOODED SWEATSHIRT (M to XL)	\$ 25.00
GREY HOODED SWEATSHIRT (XXL)	\$ 27.00
BLUE SATIN JACKET W/LOGO ONLY	\$ 36.00
*BLUE SATIN JACKET W/LOGO AND NAME	\$ 40.50
*BLUE POCKET T-SHIRT W/LOGO	\$ 12.44
BLUET-SHIRT W/LOGO AND NO POCKET	\$ 11.00
WHITE T-SHIRT W/HOUSTON SKYLINE	\$ 11.00
LARGE BLUE & WHITE TRANSFER	\$ 3.00
SMALL SEW-ON PATCH	\$ 4.00
22 OUNCE THERMAL CUP	\$ 5.00
OBSERVE MESSIER	\$ 4.00
OBSERVE HERSCHEL	\$ 4.00
OBSERVE COMETS	\$ 7.00
OBSERVER'S GUIDES -- Essential guidebook to 1998 astronomical events.	\$12.00

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.

B&Ps from the IAUCs

by *Matt Delevoryas*



The neighborhood is getting more crowded. Asteroid discoveries receive preliminary designations based on the half month during which they are found, and 1998 S... is how asteroids from the second half of this September were designated. The Minor Planet Electronic Circulars list an unusually large number of discoveries in that period which have perihelion distances which bring them as close to the sun as the Earth's aphelion distance. (Such asteroids are referred to as Apollo asteroids. Despite first impressions, there is not necessarily any risk of collision with Earth, because the asteroid orbit may be tilted so the two orbits never get near each other.) There were an incredible 19 such Apollo asteroids discovered in the half month! While ordinarily this would be only mildly surprising, six of these asteroids (1998 SO, 1998 SV₄, 1998 SD₉, 1998 SD₁₅, 1998 ST₂₇, and 1998 SZ₂₇) are not in fact really Apollos. They are much rarer Aten asteroids, which, while they cross Earth's orbital distance, do it from inside. They are asteroids which have semimajor axes even smaller than Earth's. These particular asteroids vary in semimajor axis from 0.93 a.u. to 0.70 a.u. It is not entirely a coincidence that so many Atens have been found so fast. The last five were discoveries by the same organization, the Lincoln [Laboratory] Near Earth Asteroid Research (LINEAR) program, the same folks for whom all the comets LINEAR are named. The instrument they use is at the ETS (Experimental Test Site), at the White Sands Missile Range, their "GTS-2" telescope, a 1m Schmidt-Cassegrain identical to the GEODSS telescopes developed for detection and orbit determination of artificial satellites. In fact, there is an operational three-instrument GEODSS installation across the parking lot from the LINEAR instrument! However, these Schmidt-Casses are a little faster than any of ours, at f/2.15. The telescope uses what is advertised as an "electro-optical device" to take the image (that's a CCD to us astronomers). Incidentally, of the 13 Apollo asteroids in the half month, 10 were discovered by LINEAR, and one was observed just after discovery elsewhere.

Continued...

School Star Party

What: An opportunity to share your enthusiasm for astronomy with some school kids. (It's a LOT of fun for you and the kids.)

When: Wednesday, November 11th at 7:00 p.m.

Where: Grady Middle School, San Felipe at Sage

How: Call Marg Nunez at 713-529-2549 or send her an email at Marg10@flash.net to **volunteer to help**

Here's what happens: You bring one of your telescopes (or use one that Marg has arranged for), set it up on the school grounds, and show the students what's up. Saturn (always a crowd pleaser) will be up (alt = 51 degrees at 8:30 p.m.), as will Jupiter. The moon won't rise until midnight, so you may be able to show off some deep sky objects as well.

B&Ps from the IAUCS... from previous page

IAU Circular 7009 announces that the archetypical variable star R Coronae Borealis has faded from its normal magnitude of about 6.0. Starting approximately August 24th, it faded two magnitudes, being reported to be in the range 8.1 to 8.4 during September 5 - 8. The last minimum of R CrB was at the end of 1996, when it faded to magnitude 13.5. By contrast, the minimum preceding that was in late 1993 when it faded only to 8.5. R CrB variable stars darken when a shell of "soot" forms in the stellar atmosphere. Charts with comparison stars can be found on the top of p. 161 of the Peterson's *Field Guide to the Stars and Planets*, second edition, and pages 89 and 90 used together of David Levy's *Observing Variable Stars*.

Observatory Duty Roster

by Michael B. Dye, Observatory Chairman

This is the duty list for November, December 1998 and January 1999. 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 November supervisor Charles Foyt 254-773-5068

Stanley Jones Site
Arnie Kaestner Site
David Kaestner Site
Bill Krell Site
Howard Leverenz Members Observatory Night 11-14-98
Mary Lockwood Members Observatory Night 11-14-98
Robert Menius Site
Larry Mitchell Members Observatory Night 11-14-98

For December supervisor Kirk Kendrick 281 391-3834

John Mitscherling Members Observatory Night 12-12-98
Jeff Moore Site
Debbie Moran Site
Ben Negy Jr. Members Observatory Night 12-12-98
Johnny Norris Site
Richard Nugent Members Observatory Night 12-12-98
Ralph Overturf Jr. Site
Don C. Pearce Site

For January supervisor Kirk Kendrick 281 391-3834

Michael Pennington Members Observatory Night 01-xx-99
Michael D. Peters Site
Sim Picheloup Members Observatory Night 01-xx-99
Gary Ray Members Observatory Night 01-xx-99
Glenn L. Ray Site
George E. E. Reder, II Site
Mike Reynolds Site
Henry Schneider 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.

Comet Giacobini-Zinner

by *Matt Delevoryas*

Following is an ephemeris for Comet 21P/Giacobini-Zinner, brought to you by the folks at Starline, with information provided by the IAU Circulars Committee. The IAU Circulars indicate that this dependable comet has been appearing a half magnitude or more brighter than the predictions, based on its usual appearance. During the ephemeris, it is a south-southwesterly evening object in Aquila, entering Capricornus November 16th. The elements are from MPC 25184, and the magnitude was originally taken from the 1991 Comet Handbook and agrees with many later sources. For elements, contact the Committee. For additional ephemerides, please contact Kenneth Drake, the Chairman of the HAS Comet SIG. The columns C-E and C-S give the comet-Earth and comet-Sun distances in a.u., and each line is for 0^h UTC.

Date	Julian	J2000.0			B1950.0			Mag	C-E	C-S
		RA	Dec		RA	Dec				
mmm dd	Date	h m	deg mi		h m	deg mi				
Oct 24	2451110.5	18 27.9	+00 11	18 25.4	+00 09	9.6	0.96	1.11		
Oct 26	2451112.5	18 35.1	-00 46	18 32.5	-00 49	9.5	0.95	1.10		
Oct 28	2451114.5	18 42.5	-01 44	18 39.9	-01 47	9.4	0.94	1.09		
Oct 30	2451116.5	18 50.1	-02 43	18 47.5	-02 46	9.3	0.93	1.08		
Nov 1	2451118.5	18 58.0	-03 42	18 55.4	-03 47	9.3	0.92	1.07		
Nov 3	2451120.5	19 06.1	-04 43	19 03.4	-04 47	9.2	0.91	1.07		
Nov 5	2451122.5	19 14.4	-05 44	19 11.8	-05 49	9.1	0.90	1.06		
Nov 7	2451124.5	19 23.0	-06 45	19 20.3	-06 51	9.1	0.89	1.05		
Nov 9	2451126.5	19 31.8	-07 47	19 29.1	-07 53	9.0	0.88	1.05		
Nov 11	2451128.5	19 40.8	-08 49	19 38.1	-08 56	9.0	0.88	1.04		
Nov 13	2451130.5	19 50.1	-09 50	19 47.4	-09 58	9.0	0.87	1.04		
Nov 15	2451132.5	19 59.6	-10 52	19 56.8	-11 00	8.9	0.87	1.04		
Nov 17	2451134.5	20 09.3	-11 53	20 06.5	-12 01	8.9	0.86	1.04		
Nov 19	2451136.5	20 19.2	-12 53	20 16.4	-13 02	8.9	0.86	1.03		
Nov 21	2451138.5	20 29.3	-13 52	20 26.6	-14 02	8.9	0.85	1.03		
Nov 23	2451140.5	20 39.6	-14 49	20 36.8	-15 00	8.9	0.85	1.03		
Nov 25	2451142.5	20 50.1	-15 45	20 47.3	-15 56	8.9	0.85	1.04		
Nov 27	2451144.5	21 00.7	-16 39	20 57.9	-16 51	8.9	0.85	1.04		
Nov 29	2451146.5	21 11.5	-17 30	21 08.7	-17 43	8.9	0.85	1.04		

Comet 52P/Harrington-Abell

by Matt Delevoryas

Following is an ephemeris for Comet 52P/Harrington-Abell (continuing the one on p. 15 of the October issue), brought to you by the folks at Starline, with information provided by the IAU Circulars Committee. Do not believe the magnitudes listed. The comet has spent many weeks nearly ten magnitudes brighter than these predictions, which are based on its normal behavior. Check Starline (281-568-9340) for information about its current magnitude. During the ephemeris, it is overhead late during the night, in Auriga. The elements are from MPC 27081, and the magnitude is from the 1990 Comet Handbook (which is also the magnitude still used in MPC 31882). For elements, contact the Committee. For additional ephemerides, please contact Kenneth Drake, the Chairman of the HAS Comet SIG. The columns C-E and C-S give the comet-Earth and comet-Sun distances in a.u., and each line is for 0^h UTC.

Date mm dd	Julian Date	J2000.0			B1950.0			Mag	C-E	C-S
		RA h m	Dec deg mi	h m	RA h m	Dec deg mi				
Nov 3	2451120.5	6 54.4	+38 40	6 51.0	+38 44	18.3	1.26	1.93		
Nov 8	2451125.5	7 01.4	+39 02	6 57.9	+39 06	18.1	1.20	1.91		
Nov 13	2451130.5	7 07.6	+39 23	7 04.2	+39 28	18.0	1.15	1.90		
Nov 18	2451135.5	7 13.1	+39 44	7 09.6	+39 49	17.8	1.10	1.88		
Nov 23	2451140.5	7 17.6	+40 04	7 14.2	+40 10	17.7	1.05	1.86		
Nov 28	2451145.5	7 21.3	+40 23	7 17.8	+40 28	17.5	1.01	1.85		
Dec 3	2451150.5	7 23.9	+40 39	7 20.4	+40 45	17.4	0.97	1.83		



Comet C/1998 M5 LINEAR

By Matt Delevoryas

Following is an ephemeris for Comet C/1998 M5 LINEAR (continuing the one on p. 17 of the October issue), brought to you by the folks at Starline, with information provided by the IAU Circulars Committee. During the ephemeris, it is a west- northwesterly evening object in Lyra. The elements are from MPC 32410, and the magnitude follows MPC 32356. For elements, contact the Committee. For additional ephemerides, please contact Kenneth Drake, the Chairman of the HAS Comet SIG. The columns C-E and C-S give the comet-Earth and comet-Sun distances in a.u., and each line is for 0^h UTC.

		J2000.0				B1950.0						
Date	Julian	RA		Dec		RA		Dec				
mmm dd	Date	h	m	deg	mi	h	m	deg	mi	Mag	C-E	C-S
Nov 3	2451120.5	18	52.2	+36	34	18	50.4	+36	31	10.6	1.96	2.04
Nov 5	2451122.5	18	50.9	+36	27	18	49.2	+36	23	10.5	1.97	2.03
Nov 7	2451124.5	18	49.8	+36	20	18	48.0	+36	17	10.5	1.98	2.01
Nov 9	2451126.5	18	48.8	+36	14	18	47.1	+36	11	10.5	1.99	2.00
<u>Nov 11</u>	<u>2451128.5</u>	<u>18</u>	<u>48.0</u>	<u>+36</u>	<u>10</u>	<u>18</u>	<u>46.2</u>	<u>+36</u>	<u>06</u>	<u>10.5</u>	<u>2.00</u>	<u>1.99</u>
Nov 13	2451130.5	18	47.3	+36	06	18	45.5	+36	02	10.5	2.00	1.98
Nov 15	2451132.5	18	46.7	+36	03	18	44.9	+36	00	10.4	2.01	1.96
Nov 17	2451134.5	18	46.2	+36	02	18	44.4	+35	58	10.4	2.02	1.95
Nov 19	2451136.5	18	45.9	+36	01	18	44.1	+35	58	10.4	2.02	1.94
<u>Nov 21</u>	<u>2451138.5</u>	<u>18</u>	<u>45.6</u>	<u>+36</u>	<u>02</u>	<u>18</u>	<u>43.8</u>	<u>+35</u>	<u>58</u>	<u>10.4</u>	<u>2.03</u>	<u>1.93</u>
Nov 23	2451140.5	18	45.4	+36	04	18	43.7	+36	00	10.4	2.03	1.92
Nov 25	2451142.5	18	45.4	+36	07	18	43.6	+36	03	10.3	2.03	1.91
Nov 27	2451144.5	18	45.4	+36	11	18	43.6	+36	08	10.3	2.03	1.90
Nov 29	2451146.5	18	45.5	+36	17	18	43.7	+36	13	10.3	2.04	1.89
<u>Dec 1</u>	<u>2451148.5</u>	<u>18</u>	<u>45.7</u>	<u>+36</u>	<u>23</u>	<u>18</u>	<u>43.9</u>	<u>+36</u>	<u>20</u>	<u>10.3</u>	<u>2.04</u>	<u>1.88</u>
Dec 3	2451150.5	18	45.9	+36	32	18	44.2	+36	28	10.3	2.04	1.87

Comet C/1997 J2 Meunier-Dupouy

By Matt Delevoryas

Following is an ephemeris for Comet C/1997 J2 Meunier- Dupouy (continuing the one on p. 16 of the October issue), brought to you by the folks at Starline, with information provided by the IAU Circulars Committee. During the ephemeris, it is an early night south-southwestern object in Aquarius and Capricornus. On the evening of November 2nd, it passes within a third of a degree of M 73, with closest approach around 11 PM CST. The elements are from MPC 31482, and the magnitude follows MPC 31028. For elements, contact the Committee. For additional ephemerides, please contact Kenneth Drake, the Chairman of the HAS Comet SIG. The columns C-E and C-S give the comet-Earth and comet-Sun distances in a.u., and each line is for 0^h UTC.

Date	Julian	J2000.0				B1950.0				Mag	C-E	C-S
		RA	Dec	RA	Dec							
mmm dd	Date	h m	deg mi	h m	deg mi	Mag	C-E	C-S				
Nov 3	2451120.5	21 00.1	-12 29	20 57.4	-12 41	12.1	3.62	3.82				
Nov 8	2451125.5	21 01.7	-13 22	20 58.9	-13 34	12.2	3.74	3.84				
Nov 13	2451130.5	21 03.5	-14 10	21 00.8	-14 22	12.3	3.85	3.87				
Nov 18	2451135.5	21 05.7	-14 54	21 03.0	-15 06	12.4	3.97	3.90				
Nov 23	2451140.5	21 08.2	-15 33	21 05.5	-15 45	12.5	4.08	3.93				
Nov 28	2451145.5	21 11.0	-16 08	21 08.2	-16 20	12.6	4.19	3.96				
Dec 3	2451150.5	21 14.0	-16 40	21 11.2	-16 52	12.7	4.30	3.99				

Submit your observations...

If you have any observations you'd like to submit, send 'em to me (information on the inside back cover) and I'll put 'em in the *GuideStar*. I'd like to hear about any especially interesting or unusual observations.

For example... last Friday night (10/16/98) (before the deluge) I was able to observe Io end its transit of Jupiter (7:40 p.m.). While I'm not usually a planetary observer it was interesting to see how quickly Jupiter's moons changed their positions relative to the planet. (These Jupiter / moon events are listed in *Sky and Telescope* each month.)

..Bill Pellerin, *GuideStar* editor

Fourth Quarter Total Occultations

By Matt Delevoryas

There are eight particularly interesting occultations by the Moon (not counting Mars during the daytime) during the rest of the year. Here's the information for these events as seen from Houston (times are CST):



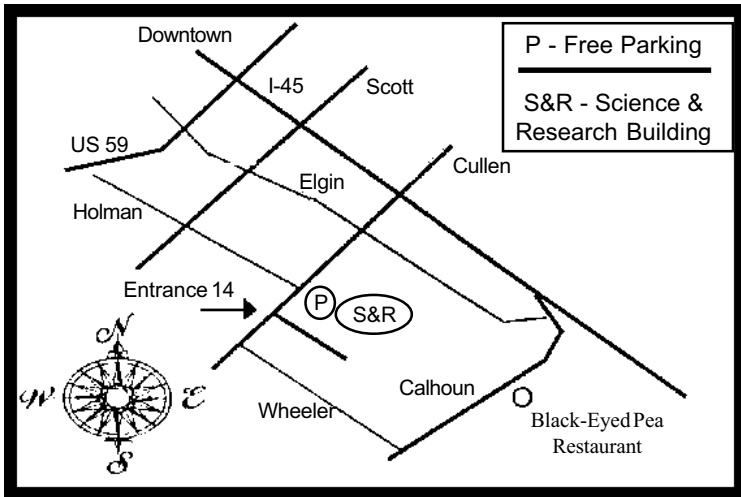
- **November 2:** Nu Piscium (mag. 4.4) disappears behind the dark limb of the 98% illuminated waxing gibbous moon before 9:18 PM 83° clockwise from the south cusp, moon 53° up, azimuth 126°. (Reappears after 10:34 PM 78° clockwise from north cusp, moon 64° up, azimuth 156°.)
- **November 13:** Sigma Leonis (mag. 4.0) reappears from behind the dark limb of the 27% illuminated waning crescent moon before 4:14 AM 81° clockwise from the north cusp, moon 29° up, azimuth 100°. (Disappears after 3:05 AM 71° counterclockwise from north cusp, moon 14° up, azimuth 91°.)
- **November 13:** At noon, Mars is occulted by a low moon. This should be challenging or impossible to observe, but die hards are encouraged to contact the author for specifics.
- **November 14:** 10 Virginis (mag. 6.0) reappears from behind the dark limb of the 18% illuminated waning crescent moon before 5:56 AM 65° clockwise from the north cusp, moon 39° up, azimuth 114°. (Disappears before 4:47 AM 63° counterclockwise from north cusp, moon 25° up, azimuth 103°.)
- **November 26:** Sigma Aquarii (mag. 4.8) disappears behind the dark limb of the 51% illuminated waxing gibbous moon after 8:28 PM 81° counterclockwise from the north cusp, moon 40° up, azimuth 220°. (Reappears after 9:44 PM 89° counterclockwise from south cusp, moon 28° up, azimuth 237°.)
- **December 10:** Chi Leonis (mag. 4.6) reappears from behind the dark limb of the 53% illuminated waning gibbous moon before 3:04 AM 33° counterclockwise from the south cusp, moon 41° up, azi-

Continued...

***Total Occultations..** from previous page*

muth 107° . (Disappears before 2:19 AM 37° clockwise from south cusp, moon 31° up, azimuth 100° .) This is a triple star with two very faint companions.

- **December 21:** Pi Capricorni (mag. 5.2) is missed entirely by the Moon as seen from central Houston, and from 40 nautical miles north of there. However, 45 nm north of downtown does see an occultation (in theory, this can be observed in between as a grazing occultation). From there, star disappears behind the dark limb of the 9% illuminated waxing crescent moon after 6:31 PM 5° clockwise from the south cusp, moon 18° up, azimuth 236° . It reappears from behind the dark limb before 6:34 PM 1° clockwise from south cusp. The star is a double star, with a magnitude 8.5 comes 3.2" away at 148° (1955).
- **December 28:** Mu Ceti (mag. 4.3) disappears behind the dark limb of the 78% illuminated waxing gibbous moon after 7:00 PM 65° clockwise from the south cusp, moon 60° up, azimuth 126° . (Reappears before 8:10 PM 54° counterclockwise from south cusp, moon 70° up, azimuth 160° .) This star has been found in occultations to be binary, but (as of 1983) it has yet to be resolved by speckle interferometry.
- **December 30:** During the daytime, alpha Tauri (Aldebaran) (mag. 1.1) disappears behind the dark limb of the 93% illuminated waxing gibbous moon after 3:26 PM 84° clockwise from the south cusp, moon only 9° up, azimuth 76. (Reappears after 4:21 PM 86° counterclockwise from south cusp.) Aldebaran has a close mag. 13.5 companion 31" away, and an 11.2/13.6 2" pair 122" away, quite relevant during a night occultation, but the ultimate occultation observing challenge for this quarter during the day!



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.

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

AOL: BILLP10566; Internet: BILLP10566@AOL.COM

Reproduction: Mike & Judy Dye... Need help!! ... call the president to volunteer!!!

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



Houston Astronomical Society

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

NON-PROFIT
ORGANIZATION
U.S. POSTAGE
PAID
STAFFORD, TX
77477
Permit No. 183