



GuideStar

July, 2007

At the July 6 meeting...

Satellites of the Outer Planets, Part I

Justin McCollum

HAS Member, (and novice meeting leader) Justin McCollum will discuss the many and varied satellites of the outer planets. Many of these are observable from Earth. Galileo was the first to see the 4 large moons of Jupiter and to track their orbits around the planet.

Since then, many more satellites of Jupiter have been found (and are *being* found) and the satellites of Saturn, Uranus, and Neptune are all under scrutiny.

What do we know about these objects?

Come to the July meeting, and Justin will tell us all about them.

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HAS Web Page:

<http://www.AstronomyHouston.org>

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

Schedule of meeting activities:

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

Novice meeting: 7:00 p.m.
Leonard Ferguson - "Fun With the Sun!"

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

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

See last page for a map and more information.

The Houston Astronomical Society

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

Officers & Past President

President: Bill Leach.....H: 281-893-4057
 Vice Pres: Ken Miller.....H: 936-931-2724
 Secretary: Doug McCormick.....H: 281-996-0177
 Treasurer: Bill Flanagan.....H:713-699-8819
 Past President: Steve Sartor

Additional Board Members

Steve Goldberg.....713-721-5077 Liaison responsibility
 Brian Cudnik.....
 Allen Gilchrist.....
 Don Pearce.....713-432-0734
 Bram Weisman.....
 John Missavage.....

Committee Chairpersons

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 Education.....Richard Nugent.....
 Field Tr./Obsg.....George Stradley.....281-376-5787
 Novice.....Justin McCollum.....
 Observatory.....Bob Rogers.....281-460-1573
 Program.....Don Pearce.....
 Publicity.....John Missavage.....
 Telescope.....Bram Weisman.....
 Paul & Kay McCallum.....
 Welcoming.....Lee Lankford.....

Ad-Hoc Committee Chairpersons

Historian.....Leland Dolan.....713-688-0981
 Librarian.....Peggy Gilchrist.....281-443-8773
 Logo Mds Sales.....Judy Dye.....281-498-1703
 Long Range Plan.....Bill Leach.....281-893-4057
 Parliamentarian.....Kirk Kendrick.....281-633-8819
 Publ. Star Party.....Richard Nugent.....713-524-1993
 Rice U. Coord.....Matt Delevoryas.....713-666-9428
 Schedule Obsv'ty.....Steve Goldberg.....713-721-5077
 Texas Star Pty.....Steve Goldberg.....713-721-5077

Special Interest Groups & Help Committees

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

Advisors

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

Dues and Membership Information

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

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

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

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Special Interest Group Listing

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

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

Other Meetings...

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

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

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

July/August Calendar:



Photo by Scott Mitchell

Check the web site:
www.astronomyhouston.org
Webmaster: Kay McCallum
KayMcCallum@MccLibrary.net

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

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

Date	Time	Event
July		
1	3:00 a.m.	Venus 0.66 deg. SSW of Saturn
6	8:00 p.m.	HAS General Meeting, U of H
7	11:54 a.m.	Moon at last quarter
14	7:04 a.m.	New Moon Prime Night, Columbus Observing Site
16	6:00 p.m.	Moon 0.18 deg. SE of Saturn
20	10:00 a.m.	Mercury at greatest elongation west
22	1:28 a.m.	Moon at first quarter
26	7:30 p.m.	HAS Board Meeting, Houston Chronicle Building
28		Southern Delta Aquarid meteors peak
30	7:49 p.m.	Full Moon Alpha Capricornid meteors peak

August		
3	8:00 p.m.	HAS General Meeting, U of H
5	4:21 p.m.	Moon at Last Quarter Prime Night, Columbus Observing Site
11	6:02 p.m.	New Moon
13	1:00 p.m.	Neptune at opposition Perseid meteors peak
20	6:54 p.m.	Moon at First Quarter
28	5:36 a.m.	Full Moon Lunar Eclipse, visible locally in early morning

Send calendar events to Doug McCormick
 - skygazer10@sbcglobal.net

Special "Help" Volunteers

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

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GuideStar deadline

for the August

issue

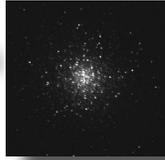
is July 15

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Observations... of the editor

by Bill Pellerin, GuideStar Editor



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Free College Astronomy Course - no kidding

I am listening to a complete, introductory college course in astronomy taught by Joshua Bloom at the University of California, Berkeley. The latest version of iTunes (Apple's software for downloading audio and video) includes "iTunes U" with a wide variety of college-level content.

For the record, the class I'm listening to is at 'UC Berkeley' > 'Physical Sciences' > 'Astro 10P: Introduction to General Astronomy'. There's more stuff here that may be of interest to you, including various physics classes and a statistics class. Other schools, including our Texas A&M have other material. Check this out.

By the way, you can listen to the content on your PC (you have to install the free iTunes software) or on your iPod for on-the-go listening. Great stuff.

One night of Observing

On June 9, I was able to get some under-the-stars time and do some variable star imaging. I have the data, but haven't completed the analysis or sent the results to the AAVSO. It was a warm and muggy night, but I was so grateful to have some observing time that I managed to stay up until about 1:00 a.m. The next Saturday, the 16th wasn't so nice and there was no observing to be done on *that* night.

More recently, we've all been spending time dodging raindrops. Let's hope for good weather in July.

SkyScout spied at the Frys Store

I was in the Frys store on the North Freeway (I-45) the other day, and they had several Celestron SkyScout units in stock. If you've been wanting one of these, you can satisfy your need by visiting the Frys Store (exit West Road).

My Icon (above) has changed

I changed my icon at the top of this (monthly) article. For now, the image is a picture of M13 that I took on June 9 with my DSI Pro II imager and a 8" SCT. It's not going to win any awards, but at least it's a picture I took myself.

All of the other images that I took that night are to be used for the measurement of variable star magnitudes. They're not that interesting to see, but they provide data that may be useful.

It's Summer!!!

It's now officially summer. The sun reached its northernmost point on Thursday at 1:06 p.m. local time. If you were particularly interested in this event you may have stepped outside and checked out the posi-

tion of the sun. I was going toward downtown on Allen Parkway on that day as the sun was rising and noticed that it's very north of east. The idea that the sun rises in the east and sets in the west isn't exactly true, except for two days a year -- the spring equinox and the autumn equinox. On these days, the sun is crossing the equator.

The good news is that since Thursday, the days are getting shorter, and the nights are getting longer. This trend will continue until December 21. For those of us who like the night sky we'll have more darkness as time goes on.

Here, we had 14 hours 4 minutes between sunrise and sunset on June 21; on December 21, the interval between sunrise and sunset will be 10 hours and 14 minutes. This means that we have 3 hours and 50 minutes more time when the sun is down in December. This means, on average, that we lose about 1.26 minutes of sunlight for every day between June 21 and December 21.

Of course, observing in the summer has its own challenges -- heat and humidity, among them. There's also the dewing problem. If you've ever been out to the HAS site on a summer night you have experience with this problem.

Enjoy your summer!

Until next time...

clear skies and new moons!

..Bill

billpellerin@sbcglobal.net

Just Looking

A GuideStar Interview by Clayton L. Jeter

Leland Dolan - HAS Historian

This month for our newsletter I've featured an interview with none other than our own Leland Dolan. Not only is Leland one of our earliest society members from the 1950's, but he has been extremely helpful in making and recording our societies history.



Leland Dolan at an "Astronomy Day" held on the Rice U. campus

When I was the "Telescope Loaner Chairperson" with our club for many years, it was Leland who always helped me with expert advice when problems arose concerning scopes. He always seemed to have the right answer. In the

1987 photo below that he provided, note the 40mm refractor that he built and used. Leland has always been very active in astronomy and our clubs success. Enjoy this most interesting interview with Leland...

Leland Dolan Bio:

The skies above have always fascinated me. I was born in Houston in 1932. The Houston, in which I grew up, unlike today's, was not light-polluted. Before I started school, our family moved into a new house which had bedrooms facing south, and I recall seeing a "bright ruddy star" in the late evening sky. Now, I know it was the planet Mars. Then, in April of 1940, the path of an annular eclipse passed right through Houston, and I recall the rings projected by holes punched in a piece of cardboard.

As a child, I recall seeing pictures of the Moon, the rings of Saturn, and the surface features of Jupiter and Mars, but I never got to see them in a telescope. Then, in 1956, as I emerged from a downtown movie house, I saw a huge (20" truck-mounted cassegrain) parked across Main Street. A man by the name of Woody Myers (who just happened to be the founder of the HAAC/HAS was charging folks 25 cents each to take a look at the Moon. That was my first view through an astronomical telescope. In August of the following year, Comet Mrkos shone brightly in the evening sky

and a couple of months later, the Soviets orbited Sputnik I. The Houston papers told us where to look for artificial satellites, but I did not yet know my way around the sky. As the US began orbiting satellites, I finally bought a booklet explaining all about the sky. Later, I bought a copy of the June 1958 S&T, after which I attended the July 11th meeting of the Houston Amateur Astronomy Club (now the HAS). I have been an amateur astronomer ever since.

The Leland Dolan Interview:

Clayton: How has being a member of the Houston Astronomical Society helped you "stay the course" in astronomy?

Leland: Clayton, being a member of the HAS keeps me up to date and helps me understand many of the discoveries that are taking place in our Universe.

Clayton: As an amateur astronomer for over a half century, do you find this hobby to be expensive?

Leland: I don't know how many thousands of dollars I have spent on telescopes and accessories. My 100mm Takahashi refractor cost a couple of thousand dollars for the optical tube assembly. Add to that the cost of cameras, and film processing. And now I'm trying to get into digital astrophotography. Suddenly, I have to invest in a lot of new equipment.

Clayton: I like the refractor you built that's in the above photo. Tell us about your views through it. Do you still have that scope?

Leland: I still have that scope, although the crude (unstable) mounting has been disassembled. The optics are OK for observing the Moon, but my chief reason for building it was to see just how good an image I could get in a home-made scope. I have even taken pictures of sunspots, using aluminized Mylar as a solar filter.

Continued ...

Just Looking... from previous page

Clayton: What telescope and mount are you currently using for your observations?

Leland: I'm using my 100mm Takahashi on an altazimuth mount. In addition, I also have a 60mm "Tak" that I can carry outdoors in one hand. This is great for casual observing, such as looking at the earthlight on a crescent moon at low magnification.

Clayton: Where is most of your observing performed?

Leland: Because my strength has waned over the years, I find it more difficult now to haul the scope around, so I've become a backyard astronomer.

Clayton: Have you got a favorite type of object that you like to observe or photograph?

Leland: Most of my observing is of solar system objects, such as the Sun, Moon and brighter planets. There is just too much light pollution near where I live.

Clayton: You are our club's historian... is this position a difficult task to manage? How do you keep up with 50 years worth of data?

Leland: Clayton, I have quite a bit of information, but unfortunately, part of that was lost last year when my computer "crashed", since I'm not very diligent about backing up my data. However, I do have some reprints of meeting notices, along with photos I have taken at various meetings of astronomers like David Levy, Stephen O'Meara, and that discoverer of the "non-planet Pluto": Clyde Tombaugh, when he spoke at the Museum of Natural Science.

Clayton: I really like your terrestrial astrophotography of the night skies that you have shown us at our meetings. I like the foreground objects for scale (trees, buildings, etc) that you include. What camera and equipment do you use for these stunning 3-D shots?

Leland: Many of these photos were taken years ago when I had a C-5 Celestron and I coupled a Nikon single-lens-reflex to the scope. I have also taken photos of planetary groupings in evening twilight, with that same Nikon, mounted on a stationary tripod, to get all the planets into field of view.

Clayton: Give us all a brief overview of a typical Friday night H.A.S. meeting back in the 1950's.

Leland: At the time I joined the club, meetings were quite different. A typical meeting often consisted of three short talks, usually by our members. This was followed by a short film on astronomy or astronautics. Occasionally, members would set up telescopes. Back then, the skies were dark enough on the U of H campus for Pres. Woody Myers to take a flashlight and point to the stars making up the constellation Scorpius.

Clayton: In the next 25+ years, how do you envision HAS? Do you see changes coming for our club?

Leland: I really don't know the answer. I would hope that they do something to curb light pollution. It may well be that energy shortages (such as they have had in California) may force cutbacks of unnecessary outdoor lighting. Perhaps, amateur astronomers will make observations (on a time share basis) at their home computer using telescopes a thousand miles away.

Clayton: Thanks Leland for taking the time to share your astronomy interest and views with us for our newsletter, "The Guide Star". It's always a pleasure chatting with you. We wish you luck with all of your astronomy interests. Thanks again Leland for being a cornerstone for our society's future. Clear skies, always.

Arcturus

Object: Arcturus

Class: Star

Magnitude: 0

R.A.: 14 h, 15 m, 40 s

Dec: 19 degrees, 10 minutes, 57 seconds

Distance: 36.7 light years

Constellation: Bootes

Optics needed: Naked eye

Why this object is interesting.

Arcturus is high in the sky in July, about 70 degrees up from the horizon on July 20th at 9:00 p.m. It's easy to find, even in a murky city sky (like tonight). The traditional way to find Arcturus is to follow the handle of the Big Dipper (away from the bowl) and 'arc to Arcturus'. This assumes that the Big Dipper is visible!

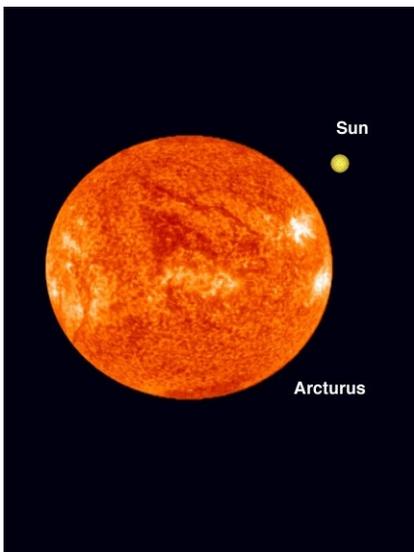


Image from
Windows to the Universe

<http://www.windows.ucar.edu/>

The star is in the constellation Bootis, the herdsman. In keeping with the theme of last month's column, you probably already know that the constellation looks more like a kite than anything else.

The name is from Greek, meaning

'Bear Watcher', a reference to the nearby constellation Ursa Major (the large bear).

For a time, it was believed that the star was 40 light years away from us. In 1933 the light from the star fell on a photocell and opened the Chicago World's Fair. The idea was that it had been 40 years since the last world's fair in Chicago, so it seemed appropriate. We now know that the star is a bit (18 trillion miles) closer, at 36.7 light years.

Arcturus is an orange K1 giant star with a diameter 25 times as large as our Sun. Since our Sun subtends about 1/2 degree in our sky, Arcturus would, if it replaced the sun would be 12 degrees across. We'd be burned to a crisp in short order.

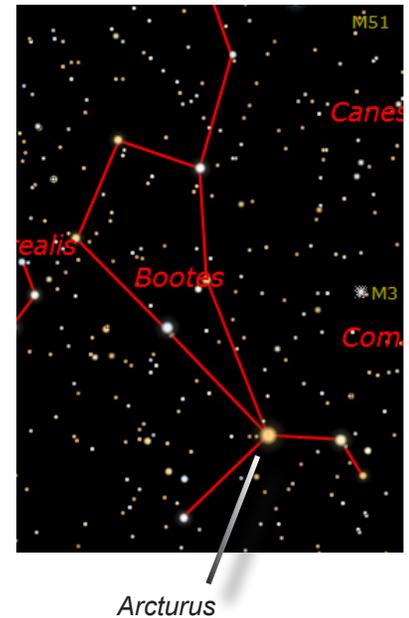
Smaller stars, like our sun are fusing Hydrogen into Helium and giving off light as the missing matter is turned into energy.

This is based on the most famous equation in physics $E=MC^2$. Einstein's rule says that matter and energy are equivalent, and if matter is given up in the fusion process, energy is generated.

Large stars, like Arcturus have completed the Hydrogen to Helium cycle have swelled and are now fusing Helium to Carbon and Oxygen. Large stars, like this one, live fast and die young. It's a red-giant and looks clearly red or orange-red in the sky. Much of the energy given off by Arcturus is in the infrared part of the spectrum, and is invisible to our eyes.

Arcturus has a high proper motion (actual movement in the sky) and is unusual in that its motion is not in the plane of the Milky Way. It is circling the center of the galaxy in an inclined orbit. If you wait long enough (500,000 years will do), Arcturus may disappear from our view.

New data indicates that Arcturus is ever-so-slightly variable with a variation of .04 magnitude over its 8.3 day cycle. This information is from data taken by the Hipparcos satellite (don't try this at home).



How can I learn more about the Astronomical League?

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

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

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

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

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

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

Membership Renewals...

Your membership is renewable on January 1 of each year.

Total yearly dues are \$36.

If you paid your dues any time in 2006, your payment for 2007 was due as of January 1, 2007.

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

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

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

Thanks!

Want Ads

For Sale: Celestron Starhopper, 8" Dobsonian Telescope
\$250.00, Kerry Warner, 713 784 7673

For Sale: 17.5" Newtonian

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

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

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

For Sale: Celestron Nexstar 8

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

For Sale: Celestron Sky Master binoculars

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

Email your ads to Kay McCallum, our Webmaster, at KayMcCallum@MccLibrary.net

Publicity Suggestion Box

I welcome any suggestions that *any* member has to offer. It doesn't matter how trivial you think your idea may be. All input will be reviewed and welcomed.

Let's grow.

Please drop me a note at the following address.

itjdm0@yahoo.com

John Missavage- HAS Publicity Chair

Remember --

All HAS memberships are due for renewal in January. Pay your 2007 dues now!! Our membership year now corresponds to the calendar year.

Mail your dues to the address on the last page of this *GuideStar* or bring your payment to the meeting.

Advantage Telescope



- Antique Restoration
- Complete Telescope Maintenance
- SCT tune-up's
- Proven, "Last Word" collimation process

- Advantage Telescope -
PO Box 375 Mont Belvieu, TX 77580-0375
Call: 713-569-7529 Email: stonebloke@gmail.com

Logo Sales

In addition to all the other cool stuff that Judy Dye has available in Logo Sales, the 2007 "Observer's Guide" is available. This book is a must-have for planning your observing in 2007, so if you don't have your copy come to the meeting, see Judy, and buy one.

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

Judy Ann Dye

Minutes

of the June, 2007 Meeting of the

Houston Astronomical Society

The June, 2007 meeting of the Houston Astronomical Society was called to order on June 1st at 8:04 p.m. by HAS President, Bill Leach.

General Announcements:

- Bill Leach introduced himself and previewed the program for the evening.
- Bill welcomed the three new members and the many visitors at the meeting.
- Bill recognized the efforts of Welcoming Committee Chair, Lee Lankford, who was responsible for the very nice refreshments available at the meeting.

Announcements:

- Awards Chair, Amelia Goldberg, presented Brian Cudnick with the Astronomical League's Messier Certificate #2354 for observing 70 of the objects on the Messier List.
- Bill Leach announced that HAS Librarian, Peggy Gilchrist, had some vintage Sky and Telescope and Astronomy Magazines from the HAS Library available free to members. The magazines were being removed from the library to create more room for the club's books.
- Bill Leach reminded all members that if they have not yet paid their 2007 dues, they are past due. HAS membership dues are renewed in January each year, and the standard membership is \$36.
- Field Trip/Observing Committee Chair, George Stradley, announced the next observing field trip at the Columbus Observing site is scheduled for June 9th. Members from other area clubs have been invited, and HAS is furnishing hamburgers and hotdogs for all in attendance. There will be a green laser tour of the constellations at dusk, and guided observing with the observatory scopes. All planning to attend were asked to RSVP to George Stradley by Tuesday, June 5th at the email address posted on the HAS website, <http://www.astronomyhouston.org>.
- Telescope Loaner Program Chair, Bram Weisman, recognized the work of his Co-chairs, Kay and Paul McCalum, in managing the scope inventory. Bram reviewed the rules of the program and invited members to view

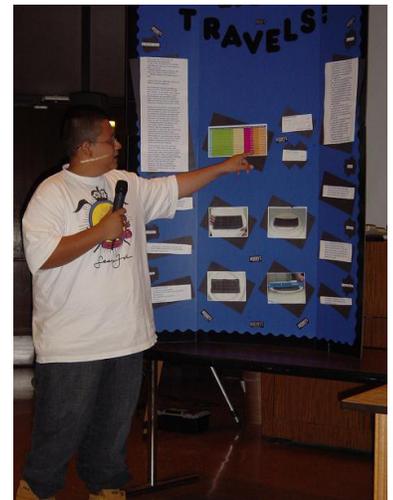
pictures and descriptions of the loaner telescopes on the HAS website.

- Bill Leach announced that Vice President, Ken Miller, was acting as Treasurer for the evening.
- Don Pearce gave the Comet Report lamenting the lack of any bright comets currently available for viewing. Don related the circumstances reported for the discovery of the comet, C/2007 E2 Lovejoy, and asked the imagers present their opinion on the difficulty of discovering a faint comet with a digital camera and a 200mm F2.8 lens. For more information on comets of interest, see Don's Comet Corner on the HAS website.

Program

Education Chair, Richard Nugent, gave some background on the 48th Annual Science and Engineering Fair and introduced the award winners who presented their projects:

- Shirley Enombo: Blinded by the Light, a project on light pollution.
- Victor Sandoval: How Fast Light Travels, a project measuring the speed of light using a microwave and chocolate bars
- Gareth Jones: Galactic Mass Measurement through Radio Waves



Victor Sandoval

Continued ...

Minutes... from previous page

- Terry Fredrick: Measuring the Orbit of Mercury using measurements taken during the recent transit of Mercury across the face of the Sun.

Steve Goldberg gave his review of the 2007 Texas Star Party (TSP) in which he reviewed the speakers who presented at TSP this year. Steve also related that TSP paid \$500 to HAS this year in appreciation of the work of HAS volunteers at the event. Steve announced the 2008 TSP will be held on June 1st – 7th.

Closing Announcements

- Bill Leach recognized the great novice presentation on digital imaging presented earlier in the evening by Don Taylor and related that Larry Ferguson would be presenting a novice presentation entitled *Fun with the Sun* at the July novice meeting.
- Bill Leach pronounced the meeting adjourned at 9:24 p.m.

Mark Your Calendars!!!

Here is the schedule for future 2007 field trips to our Columbus observing site:

September 15

December 01

Each of these dates is a Saturday, and the September 15 outing will coincide with the HAS Annual Picnic.

We will be inviting members of all the area clubs to each event as we did in March (the turnout was great!).

There will be a laser tour of the constellations to begin the evening, and the observatory will be staffed for telescopic tours as the sky darkens. We will have "light windows" for those who bring families and would like to leave a little early.

Please mark your calendars, pack your gear and observing list, and come on out. Our website www.astronomyhouston.org will keep you up to date on details as they are developed.

See ya' there,

George Stradley, Field Trip/Observing Coordinator
stradley@sbcglobal.net

Chew on This



By Diane K. Fisher

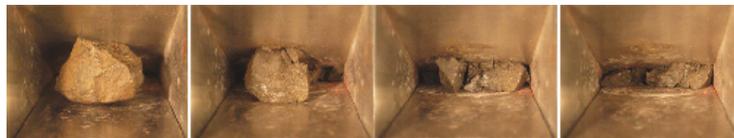
The Mars robotic rovers, Spirit and Opportunity, are equipped with RATs, or Rock Abrasion Tools. Their purpose is to abrade the surface patina off the Mars rocks so that the alpha x-ray spectrometer can analyze the minerals inside the rocks, rather than just on the surface.

But future robotic missions to Mars will be asked to go even further below the surface. Scrapers and corers will gather rock samples of substantial size, that, in order to be analyzed by a spectrometer, will need to be crushed into a fine powder.

Crushing rocks on Mars? Now there's a problem that brings to mind a multitude of possible approaches: Whack them with a large hammer? Squeeze them until they explode? How about just chewing them up? It was with this latter metaphor that the planetary instrument engineers struck pay dirt—so to speak.

Thanks to NASA's Planetary Instrument Definition and Development Program, a small group of NASA engineers came up with the Mars Rock Crusher. Only six inches tall, it can chew the hardest rocks into a powder.

The Mars Rock Crusher has two metal plates that work sort of like our jaws. One plate stays still, while the other plate moves. Rocks are dropped into the jaw between the two plates. As one plate moves in and



The Mars Rock Crusher

out (like a lower jaw), rocks are crushed between the two plates. The jaw opening is larger toward the top and smaller towards the bottom. So when larger rocks are crushed near the top, the pieces fall down into the narrower part of the jaw, where they are crushed again. This process repeats until the rock particles

are small enough to fall through a slit where the two plates are closest.

Engineers have tested the Mars Rock Crusher with Earth rocks similar to those expected to be found on Mars. One kind of rock is hematite. The rusted iron in hematite and other rocks help give Mars its nickname "The Red Planet." Another kind of rock is magnetite, so-called because it is magnetic. Rocks made by volcanoes are called basalts. Some of the volcanoes on Mars may have produced basalts with a lot of a mineral called olivine. We call those olivine basalts, and the Rock Crusher chews them up nicely too.

Visit www.jpl.nasa.gov/technology to read the latest about other NASA technologies for exploring other planets and improving life on this one.

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

Observatory Corner

By Bob Rogers, Observatory Chairman



Hello everyone.

On June 9th at the HAS Observing Site, George Stradley, our Field Trip and Observing Chairman, held his 2nd All Clubs Star Party. In attendance were members from the Ft. Bend Astronomy Club, North Houston Astronomy Club and the Houston Astronomical Society. There was approx. 50 guest and members present for the event. The Observatory Committee cooked Hot Dogs and Hamburgers for everyone while trying out our new cover over our cooking area. It was hot and smokey under the cover despite having two fans, but without the cover, it would have been much hotter with the Sun beating down on the cooks. The lessoned learned, next time we cook, we will bring out some more fans. I would like to thank Gary Delzer and Dale Morningstar for "Volunteering" to cook the food. You guys did a wonderful job despite the heat. I would also like to thank all the other volunteers that brought all the condiments and fixings for the Hot Dogs and Hamburgers. Also, thanks goes to Ed Farini for coming out early Saturday to help get the site ready for the Star Party. The biggest thanks goes to George Stradley for organizing and coordinating the Star Party. Thanks George and we look forward to the next one in September.

On another note of interest here, about a month ago, the Corby Keypad System went out on the Metal Storage building. On Memorial Day, Kirk Kendrick and I went to the site to try to fix the system and determined that the Circuit board was bad. After removing the board to send off for repair, all the codes on the main board were lost. Luckily, I had a current backup of the codes. Before I entered all the codes back into the system, I got the current (June) paid members roster from Bill Flanagan and removed 37 names and codes from the Corby system of members that had not paid their dues for 2007. So, bottom line here is, if you are a key

holder to the Observatory and have NOT paid your dues for 2007, you won't be able to gain access to the telescope room. If you need to find out if your code is active or has been disabled, fell free to contact me by phone (281-460-1573) after 5:00 p.m. or by Email – siteworkerbob@hotmail.com.

Some dates of interest here for everyone. George Stradley, our Field Trip and Observing Chairman, has set the following 2007 Field Trip Schedule – September 15th (HAS Picnic) and December 1st. Keep an eye out on the Web site and here at the Observatory Corner for future updates for these Field Trips.

If you have any suggestions or thoughts for the site, let me know.

***Thanks,
Bob Rogers
Observatory Chairman***

Observatory Duty Roster

by Bob Rogers, Observatory Chairman

The site is in great shape thanks to the many, many volunteers who help maintain the site. Bob Rogers, Mike Edstrom and Ken Carey , and the site teams did a great job.

July Supervisor - Ken Carey - 281-488-2765

Volunteers:

Daniel Lambert
Howard Leverenz
Jay Levy
Mary Lockwood
Doug McCormick
Robert Menius
Larry Mitchell
Debbie Moran

Projects:

Site Cleanup
Weed Eater Control
Field Maintenance

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

August Supervisor - Dana Lindstrom - 713-862-6044

Volunteers:

Stan Musielewicz
Ben Negy Jr
Johnny Norris
Richard Nugent
Ralph Overturf Jr
Don Pearce
Sim Picheloup
Scott Poteet

•
• **Want new information in the**
• **GuideStar? Write it!!**
•

• You, too, can be published here.
•

- What are you doing that's new and exciting?
- What have you read recently (book report!)?
- What new and interesting software are you using?
- Did you have an observation that was especially interesting?
- Any 'lessons learned' from observing attempts?
- What are you looking forward to at the Texas Star Party this year?

• Send your materials to Bill Pellerin,
• the GuideStar editor at:
• BillPellerin@sbcglobal.net
•
•
•
•

September Supervisor - Ed Preston – 281-992-8501

Volunteers:

Stan Musielewicz
Ben Negy Jr
Johnny Norris
Richard Nugent
Ralph Overturf Jr
Don Pearce
Sim Picheloup
Scott Poteet

General Membership Meeting

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

Board of Directors Meeting

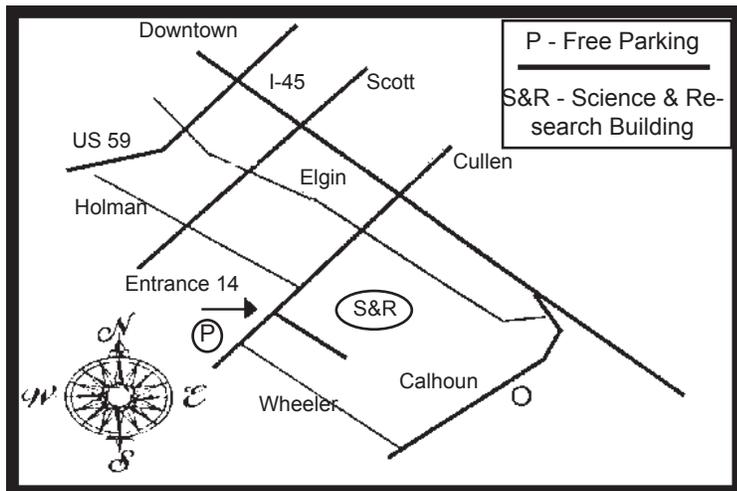
The Board of Directors Meeting is held on dates scheduled by the board at 7:00 p.m. at the University of St. Thomas. Information provided to GuideStar will be published. The meetings are open to all members of the Society in good standing. Attendance is encouraged.

GuideStar Information

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

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

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Houston Astronomical Society Meeting

Meeting on July 6, 2007

7:00 Novice & Site Orientation

8:00 General Meeting

University of Houston

Houston Astronomical Society

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



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

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

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