

OCTOBER 2018

★ HOUSTON ASTRONOMICAL SOCIETY ★

GUIDESTAR

FOSTERING THE SCIENCE AND ART OF ASTRONOMY
THROUGH PROGRAMS THAT SERVE OUR MEMBERSHIP
AND THE COMMUNITY

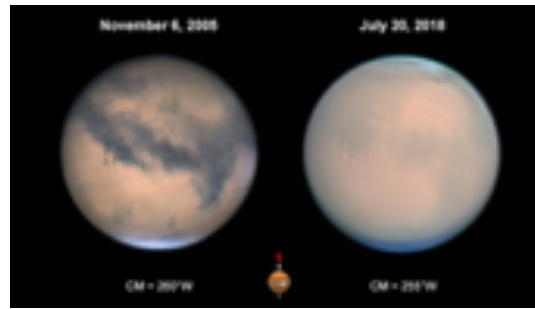


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October 5, 2018 at 8:00 PM

Dusty Mars - The 2018 Apparition of Mars



Mars reached opposition with the Sun on July 27, 2018 and made its closest approach to us on July 31st when it was only 35.8 million miles from Earth. Although this year's apparition of Mars provided us with our closest look at Mars since 2003, a small dust storm developed on Mars in May and by June had grown so large that it covered the

entire planet. As a result, a lot of amateur astronomers here on Earth were disappointed to find that the typical surface features observable during an opposition of Mars were lost behind a shroud of dust. However, as the dust began to settle, the anticipation of detecting changes to these surface details from the dust storm began to replace some of the disappointment of observing a virtually featureless globe of Mars during the height of the dust storm.

This month's presentation will review how these dust storms develop and progress on Mars and how over time they have changed the observable features on Mars. We will also explore what we have to look forward to in future apparitions of Mars.



Bill Flanagan

Bill has been an active amateur astronomer since he built his first telescope (a 6" f/8 reflector) when he was a teenager. He became fascinated with Mars when he pointed his newly built telescope at Mars during the 1969 opposition. Bill still looks forward to what interesting things Mars has to show us every two years when it passes close to Earth. In 2005 he began imaging Mars from his backyard and has recorded every apparition since. Bill also has been a member of HAS since 1987, serving on the board of directors and as Treasurer and Secretary over various times from 1996 to 2015.

Novice Meeting Presentation

Solar Observing - White light and Ha by Craig Lamison

The novice meeting starts at 7:00 PM

Upcoming Events

Monthly Calendar – October 2018

(for more information, go to the HAS website and check Events)

October 5 – HAS Monthly Meeting

October 6 – Prime Night

October 8 – New Moon

October 9 – Loaner Telescope Training (Trini Mendenhall Community Center)

October 12 – Camp CLIFF Camp for All (Burton, TX)

October 17 – VSIG Meeting (Trini Mendenhall Community Center)

October 20 – Observatory Training (Columbus Dark Site)

October 26 and 27 – Hunter’s Moon Star Party (League City, TX)

Other Meetings

Johnson Space Center Astronomical Society | jscas.net

Meets in the Lunar and Planetary Institute on the 2nd Friday of each month.

Fort Bend Astronomy Club | fbac.org/club_meetings.htm.

Meets the third Friday of the month at 8:00 p.m. at the Houston Community College Southwest Campus in Stafford, Texas.

North Houston Astronomy Club | astronomyclub.org

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.

Brazosport Astronomy Club

Meets the third Tuesday of each month at the Brazosport planetarium at 7:45 p.m. The Brazosport planetarium is located at 400 College Boulevard, Clute, TX, 77531. For more information call 979-265-3376.

HAS Meetings

All meetings are at the University of Houston Science and Research building. See the last page for directions to the location and more information.

Novice meeting

7:00 p.m. room

117 Science & Research 1 Bldg

General meeting

8:00 p.m. room

117 Science & Research 1 Bldg

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 or a conflict with other events at the University of Houston.

Board of Directors Meeting

The Board of Directors Meeting is held on dates and at locations scheduled by the board. Information provided to GuideStar will be published. The meetings are open to all members of the Society in good standing. Attendance is encouraged.



**Houston
Astronomical
Society**



GuideStar_HAS



**STARLINE
832-go4-HAS0**

Houston Astronomical Society Directory

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HAS Board Meeting

HAS Board meetings are scheduled regularly. All members are invited to attend these meetings, but only board members can vote on issues brought before the board. Meetings are held at the Trini Mendenhall Community Center (1414 Wirt Road) at 6:30 p.m. on the date specified the calendar.

Be a Hero - Volunteer

Like many non-profit organizations, HAS runs on and is lead by a group of dedicated volunteers. If we had to pay a staff to do the many things it takes just to keep HAS a viable organization, our annual dues would be, well, astronomical.

HAS is a “hobby club” in many ways. We exist so our members have a better and more enjoyable experience doing amateur astronomy. When viewed this way, volunteering to edit a monthly newsletter or to collect dues and pay bills, or to maintain our dark site in Columbus seems to compete with our hobby time “doing” amateur astronomy.

“Volunteers do not necessarily have the time, they have the heart” – Elizabeth Andrew

So, what gives? What do the volunteers who make HAS go get in return for giving up some of their “hobby” time? To begin to answer this question, you need to look no further than the mission of HAS which is: Fostering the science and art of astronomy through programs that serve our membership and the community.

It sounds a bit cliché, but through serving others, we serve ourselves and enhance our own lives. This is especially true when we are doing something we are passionate about, and passion for astronomy is at the heart of being a member of HAS!

There are many direct benefits of volunteering, including:

- More happiness in your life.
- You meet new people and make new friends, and generally become part of a community.
- You can find a mentor, learn a new skill, and gain confidence in yourself.
- You can become a mentor and experience the satisfaction of helping someone learn
- Studies have indicated that there are direct health benefits, such as relief from mild depression, lowered stress levels, and longer lifespans for people who serve others.
- You can have a direct impact on future generations.



This is just a sampling of the benefits to be reaped by volunteers. Ask any of the HAS leadership team or members who volunteer why they do the various tasks to run HAS, or why they support public outreach events, and I’m sure you will hear some of these reasons and many more.

All are good and valid reasons to serve. I believe however, that there is a more basic reason to volunteer. You can become a hero!

Be a Hero - Volunteer

Let me explain. In literature, the Hero’s Journey or Hero’s Quest is a common plot template for many myths and epic stories (think of the original Star Wars Trilogy). An individual is compelled to go on an adventure, where she must face and overcome many obstacles or crises and win a victory. The hero then returns home, changed or transformed and makes things better there for the people that she left behind.

Being an amateur astronomer is akin to being on a Hero’s Journey. All amateur astronomers are compelled by our interest in astronomy to go on an adventure of discovery. Learning to observe is a personal quest on which we must overcome many obstacles to learn how to use a telescope and observe the night sky.

It is a quest to directly experience the universe we live in and our place in it. Along the way, we experience the victory of learning new skills while becoming experienced observers. We learn a great deal of science and we gain new perspective on life. We arrive back where we started, as changed people.

The only element left to becoming a Hero in the literary sense, is that we must help the others we left behind.

To touch the past, observe a galaxy, to touch the present, set up your telescope, to touch the future, show the galaxy to a child.

So where does one start to be a Hero?

Probably the best place for a novice astronomer to start is by supporting HAS public outreach events. No experience is necessary! Just come out to an event and watch what is going on. You will see first hand the wonder and excitement that child and adult alike get from seeing Saturn, Jupiter or the Moon through a telescope for the first time. You will find a mentor there who will help you learn what it takes to bring astronomy to the public.

If you are a more seasoned observer, you might consider becoming a mentor and helping to revitalize our Urban Observing program held in George Bush park. Pop-up star parties are organized over the HAS Facebook Group and on the HAS astrolist. Volunteers help organize these events and provide assistance to novice astronomers who are learning to observe, or help others try out new equipment.



If you have specific skills such as experience in videography and editing, we've got the equipment and a team that needs your help. Hone your skill and learn new techniques while helping HAS keep our members engaged. If you are a website designer or developer, you could join our web-tech team and help HAS improve its public presence via our website and social media integration. If you are experienced with social media, you can become a member of the HAS publicity committee and help coordinate our presence on our social media platforms.

These are just a few of the areas that HAS needs your help in now. There are lots of other ways that you can contribute while following your own passion. At the same time, you will become a part of a team of very interested and supportive people who will help you become a hero and gain the benefits of volunteering in your own life.

To learn more about how you might become an HAS volunteer, please feel free to contact any HAS officer or Committee Chairpersons listed in the front our monthly Guidestar newsletter, or you can contact me directly at dons@astronomyhouston.org.

Photo Credit – Sarah Silva

Attention Women Members of H.A.S.

Learn to operate the Observatory telescopes!

by Rene Gedaly



2017 Student Intern Karla Pale Photo credit: Rene Gedaly

If you've ever wanted to learn how to operate the observatory telescopes, now's your chance. The Observatory Trainers will conduct a special female-only class on operating two of the Society's permanently housed telescopes: the computer-operated Celestron C14 GoTo telescope and the F5 Newtonian reflector outfitted with digital setting circles.

After completing this training, you will be able to schedule time on a telescope—like professional astronomers do—and open up the observatory building to use one of these big scopes all evening long. Astronomy heaven has got to be observing in dark skies on a good-sized telescope without the hassle of packing, setting up, and breaking down your own rig. When you're done, close the observatory and get some shuteye in the female bunkhouse.

- Date:** Saturday November 10, 2018
- Prerequisites:** 6 months membership and completion of online site training.
Knowledge of equatorial mounts.
- RSVP:** ChrisO@astronomyhouston.org. Class limited to 6 students.



Annual Messier Challenge

A plan to learn the joy and excitement of observing the Universe

One of the issues we as Novice Astronomers face is a program or plan of how to get started in observing. After gazing at the Moon and planets a few times, the next question is, "What now?"

Charles Messier was an 18th-19th century French astronomer who began his career as a comet chaser. Over the course of his life, he used, among others, his 3.5-inch refractor telescope to scan the cosmos looking for...comets. During this endeavor, he managed to identify and document the majority of what has become known as The Messier Catalogue.

This catalogue identifies 110 of the most-observable and beautiful objects, visible in the northern hemisphere, that we as novice and more experienced astronomers alike, can enjoy searching out and observing. These objects can be found using almost any level of decent modern telescope with many visible simply with good binoculars or even by plain eyesight. Some can be seen from your back yard. Others will require darker locales or periodic trips to a dark site.

The Astronomical League (AL) offers a certificate and pin to those who complete their Messier Program. There are, of course, certain basic requirements as to documentation and methods. As members of the Houston Astronomical Society (HAS), all of us are members of the AL. Please go to the AL website and check out the observing programs and requirements.

Most novice astronomers will quickly identify the Messier Catalogue as a logical next step in their journey. These objects run the gamut from easy to somewhat challenging. They can provide great learning practice if one wants to move on to more demanding observing. However, sometimes the idea of searching out all 110 objects can be somewhat daunting.

In the following pages, there is presented a program for observing the Messier Catalogue in phases. This program breaks down the catalogue into six parts based on the time of year when they are most easily observable. Fall has the fewest at 13, winter has the most at 23. All others are somewhere in between those two extremes. Each is very doable and entertaining while providing a valuable learning experience.

The idea here is not to have a marathon; but rather, a journey that, with a little effort, can be easily completed within a 12-month period. By using segmented observation periods, one will have the time to truly observe the objects, not just check them off a list. While completing the list is the object, the journey is the fun part and provides the experience to proceed to the next level whatever you decide that to be.

If one wishes to use a Go To system or use a celestial app, that is permissible with this plan for personal use; but, not if one wants to complete the AL Messier Program. Again, refer to the AL website for requirements and techniques.

Annual Messier Challenge | Jim King

Learning astronomical observation is like a treasure hunt. The real fun is in the chase. Learning the constellations, pointer stars, star-hopping, and other “natural” celestial navigation techniques is the real challenge and presents the most satisfaction of a job well done.

Following is a breakdown of the segments and the number of objects:

Spring	20
Late Spring	20
Mid-Summer	16
Late Summer	18
Fall	13
Winter	23
Total	110

There are several opportunities in each segment to complete your observing list. You are free to observe whenever it is convenient and appropriate. Some objects will overlap enabling you to catch up if you need to or even get ahead.

As the seasons advance, I will publish the next observation list. I will also publish a proposed date for folks to get together and work on their programs.

It is anticipated that loosely-organized events will be scheduled at the HAS Dark Site during each period where you may gather as a group, possibly with help from more experienced personnel and/or a group working with the Novice Lab. Group observing is in many ways the most fun and fulfilling.

Of course, you will have to be a current active member having taken and passed the Observatory online class and test.

Addendum: Observing lists with location data

Specific Chart Column Descriptions:

- Cls: Object classification
- Open: Open star cluster
- Glob: Globular Cluster
- PNe: Planetary nebula
- Gal: Galaxy
- Doub: Double Star
- Neb: Nebula
- S.A. Chart number in Sky Atlas 2000
- PSA Chart number in Pocket Sky Atlas

Not all objects will be observable on a specific date, many times because of the Moon. This may require a little research. Objects may even be visible on a following session. It is hoped that after a couple of sessions, you will become more proficient at searching out our celestial gems.

I know you will find this an interesting and enjoyable endeavor.

Messier Fall/Early Winter Notes

M57	NGC6720	**Ring Nebula, amazing smoke ring
M56	NGC6779	Within a rich starfield
M27	NGC6853	**Dumbell Nebula, superb object
M71	NGC6838	Loose globular, looks like an open cluster
M29	NGC6913	Small, poor open cluster, 2deg south of γ Cygni
M72	NGC6981	Near the Saturn Nebula, NGC 7009
M73	NGC6994	Group of 4 stars only, an "asterism"
M39	NGC7092	Very sparse cluster, use low power
M15	NGC7078	Rich, compact globular
M2	NGC7089	200MM telescope needed to resolve
M30	NGC7099	Tough in one-night marathon
M74	NGC628	Faint, elusive spiral; tough in a small scope
M77	NGC1068	A Seyfert Galaxy; with starlike nucleus

** Showpiece Object

Observing Chart Setup: Scope: Celestron SCT8 Evolution, no filters

Location: Columbus Dark Site

Eyepieces: Eyepieces listed to give an idea of power suggested

Optimum Time: Sort field listing suggested priority and time frame

Messier Fall/Early Winter Observing List, evening of 2018 Oct 13 at DARK SITE

Sunset 06:59p, Twilight ends 08:16p, Twilight begins 06:07a, Sunrise 07:25a, Moon rise 12:39p, Moon set 10:34p

Completely dark from 10:34p to 06:07a. Waning Crescent Moon. All times local (CDT).

Listing All Classes visible above the perfect horizon.

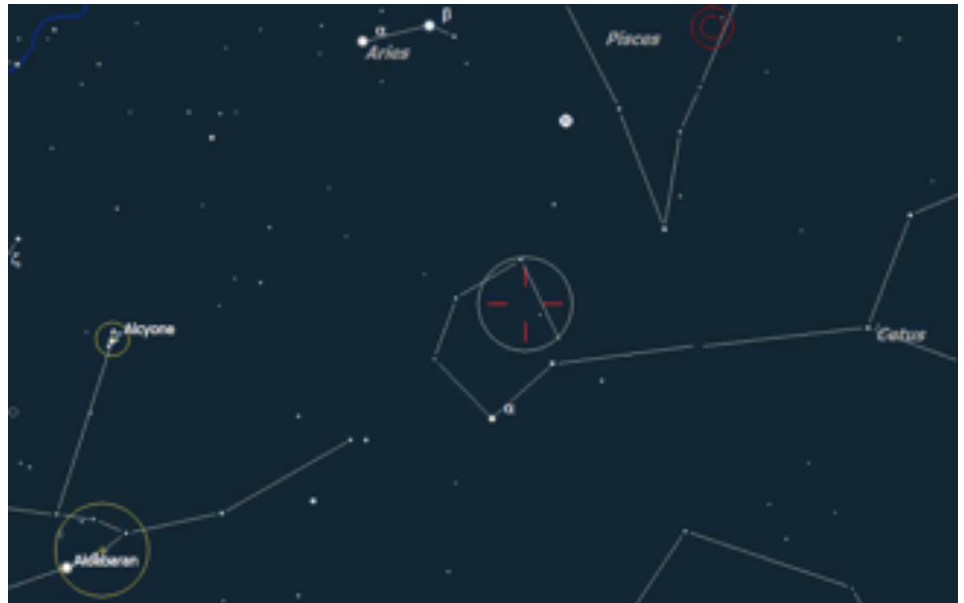
Primary ID	Alternate ID	Mag	Rise	Transit	Set	Begin	Optimum	End	Alt	Az	PSA	Difficulty	Optimum EP
Ring Nebula	M 57	9.4	11:16a	06:50p	02:20a	07:55p	08:20p	11:23p	+70°23'	+286°35'	63	easy	NexStar Plossl 32mm
M 56	NGC 6779	8.4	11:49a	07:13p	02:33a	08:01p	08:21p	10:20p	+75°15'	+277°32'	63	detectable	NexStar Plossl 40mm
Dumbbell	M 27	7.3	12:58p	07:56p	02:54a	07:56p	08:23p	11:52p	+80°57'	+224°49'	64	easy	NexStar Plossl 40mm
M 71	NGC 6838	8.4	01:03p	07:50p	02:38a	07:56p	08:23p	11:43p	+77°01'	+217°33'	64	easy	NexStar Plossl 40mm
M 29	NGC 6913	7.5	12:29p	08:20p	04:11a	07:57p	08:28p	12:32a	+80°39'	+350°39'	62	detectable	NexStar Plossl 40mm
M 72	NGC 6981	9.2	03:15p	08:50p	02:24a	08:03p	08:47p	11:05p	+48°10'	+179°07'	66	challenging	NexStar Plossl 40mm
M 73	NGC 6994	8.9	03:21p	08:55p	02:30a	08:02p	08:52p	11:19p	+48°04'	+178°45'	66	difficult	NexStar Plossl 40mm
M 39	NGC 7092	5.3	12:43p	09:28p	06:12a	07:57p	10:34p	01:59a	+67°02'	+331°06'	73	easy	Panoptic 22mm 2.0x
M 15	NGC 7078	6.3	02:55p	09:26p	03:57a	07:59p	10:34p	12:52a	+66°43'	+226°13'	75	detectable	Panoptic 22mm 2.0x
M 2	NGC 7089	6.6	03:28p	09:30p	03:31a	07:59p	10:34p	12:33a	+56°12'	+209°53'	77	detectable	Pentax XW 10mm
M 30	NGC 7099	6.9	04:29p	09:37p	02:45a	08:01p	10:34p	11:39p	+35°44'	+196°22'	77	detectable	NexStar Plossl 40mm
M 74	NGC 628	9.7	06:52p	01:32a	08:12a	10:43p	01:32a	04:22a	+76°31'	+180°01'	4	detectable	NexStar Plossl 40mm
M 77	NGC 1068	9.7	08:35p	02:38a	08:41a	11:47p	02:38a	05:30a	+60°42'	+180°05'	6	detectable	NexStar Plossl 40mm

Asterisms - Question Mark

Asterism: a grouping of stars that form a recognizable pattern.

Constellation:	Cetus
Right Ascension:	02H 36M 00.0S
Declination:	+06° 42' 00"
Magnitude:	5 To 6

This month's asterism is called the "Question Mark". It is a finder object and is located in the constellation Cetus. It is between the Pleiades in Taurus, Aires and Pisces, at one end of Cetus.



In this picture the large circle is a typical finder field of view (FOV). The small circle is the "center" of the Question Mark, the "hook" portion is to the lower right and the "bottom dot" is to the upper left.

This object is on the Astronomical League's [Asterism Observing Program](#).



About The Houston Astronomical Society

Welcome 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. Access to meeting videos on the HAS web site.
- Opportunities to participate in programs that promote astronomy to the general public (such as Star Parties at schools)
- 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! 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. The GuideStar, the monthly publication of the Houston Astronomical Society is available on the web site. 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 and Astronomy magazines are available to members at a discount.

Membership Application

You can join (or renew at the organization web site, www.astronomyhouston.org). Click the 'Join HAS' Tab. Send funds to address shown on last page 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.

Event Notification or Cancellation

HAS uses RAINEDOUT.NET to communicate late breaking updates about our various events. . Message delivery is via text messaging and e-mail. There are several ways to subscribe. If you would like to receive these notices via text messaging directly to your phone, subscribe to any of the sub-groups which interest you.

RainedOut notices will also automatically be sent to our e-mail list. Note that regular e-mail list conversations are not part of RainedOut communications and will not be sent to your phone as part of this service. Instructions to sign up for the e-mail list (a great way to keep your finger on the pulse of the club) are found here:

<http://www.astronomyhouston.org/about/email-list>.

Houston Astronomical Society

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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.

Check the Website

astronomyhouston.org

The HAS website not only has news and information about our society, but also a variety of features to manage your membership and connect with other club members.

Current members can post photos, trade gear, pay dues, manage discount magazine subscriptions, swap stories in the forum, and more.

Questions about the site? Need a hand to get your account set up? Contact webmaster@astronomyhouston.org.

The HAS web site is the winner of the 2012 Astronomical League award for excellence

To receive text messages, send any or all of the following (one at a time) to 84483

OUTREACH Public Outreach Events

STARPARTY Members only star Parties

URBAN Urban Observing Events

MEETINGS HAS Meetings

You will receive a confirmation message back for each successful enrollment.

For more information, please visit www.RainedOut.net.

About The Guidestar

Member Projects Spotlight

We want to spotlight the astronomical projects and observations that you are working on.

Send us an email at guidestar@astronomyhouston.org and tell us. Whether it be a specific research project in astronomy that you're working on, an astro league observing program, an astrophotography project, or something else, let us know so we can let the rest of the society know.

GuideStar Advertising Policies

Personal advertisements

- Members in good standing of the Houston Astronomical Society (HAS) may request that an ad be placed in the GuideStar for personal items (for sale or wanted).
- Items offered for sale must be of interest to amateur astronomers.
- No more than two telescopes may be advertised within any calendar year.
- Ads will not run for more than 3 consecutive months
- Ads will be run on a space-available basis.
- Ads must be provided to the editor in electronic format (email, text file) by the 15th of the month preceding the month-of-issue.

Commercial advertisements

- Advertisement sizes:
 - * Full page = 6.875" w x 9" h
 - * Half page = 6.875" w x 4.25" h
 - * Quarter page = 3.31" w x 4.25" h (allows for column gutter)
- Commercial advertisements will be run in the GuideStar at the following fee schedule:

Size	One time	One quarter (3 consecutive months)
Full page	\$100.00	\$250.00
Half page	\$50.00	\$125.00
Quarter page	\$25.00	\$62.50

- Artwork provided must be in electronic format (image file, PDF, etc.) and must be in the correct proportions to fit the space provided. Contact editor with questions.
- Artwork may be in color or in black and white.
- Items or services advertised must be of interest to amateur astronomers
- Payment for advertisements must be done in advance (pay to the 'Houston Astronomical Society')

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, unformatted MS-Word format via email GuideStar@astronomyhouston.org. 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. **Contact the editor for writing guidelines.**

Editing & Production:

Bob Wiesner | 713-240-7059

GuideStar@astronomyhouston.org



The GuideStar is the winner of the **2012 Astronomical League Mabel Sterns Newsletter award**

Parking At The University Of Houston Main Campus

Directions to meeting

From I-45 going south (from downtown)

- exit at Cullen Boulevard
- turn right on Cullen
- turn right on Holman Street; the parking lot is past the Hoffeinz Pavilion
- Science and Research is across the street (2nd building back)

From I-45 going north (from NASA/Galveston)

- exit at Cullen Boulevard
- turn left on Cullen
- turn right on Holman Street; the parking lot is past the Hoffeinz Pavilion
- Science and Research is across the street (2nd building back)

Parking at the University of Houston Main Campus

For the monthly Houston Astronomical Society Meeting the map below shows the location of the 15C parking lot, west of Cullen Boulevard on Holman Street.

The map is from the University of Houston web site and identifies the lot that is available for parking while attending the Houston Astronomical Society monthly meeting. This parking is available from 6:30 p.m. until 10:00 p.m. on the Friday night of the HAS meeting (usually the first Friday of the month).

This parking is free. If you get a notice from the UH campus police on the night of the meeting, call the UH Security office and let them know that this area has been made available on HAS meeting night by the Parking Department.

