

# GuideStar



April, 2005

*At the April 1 (no foolin') meeting...*

## Titan Results

### Tommy Greathouse

Lunar and Planetary  
Institute

On January 14, the European Space Agency's Huygens probe landed on Saturn's largest moon, Titan. It wasn't long before the craft had deployed instruments to measure some properties of Titan, and a new understanding of the chemical and weathering processes on the 'moon' developed. Learn all about it at the April meeting.



Dr. Tommy  
Greathouse



Drawing depicting the descent of the Huygens probe.

### Highlights:

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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.  
Team Goldberg – Steve: “TSP for First Timers”; Amelia: “Galaxy Hopping in the Virgo Cluster”

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: Steve Sartor ..... H:281-370-3544  
 Vice Pres: Bill Leach ..... H: 281-893-4057  
 Secretary: Brian Cudnik ..... H: 832- 912-1244  
 Treasurer: Bill Flanagan ..... H:713-699-8819

### Additional Board Members

	Liaison responsibility
Steve Goldberg .....	713-721-5077
Don Pearce .....	713-432-0734
JayLevy .....	281-557-4920 .... Field Trip and Observing, Program
Kenneth Miller .....	936-931-2724
Kent Francis	

### Committee Chairpersons

Audit .....	Don Selle .....	281-391-5470
Education .....	Richard Nugent .....	713-524-1993
Field Tr./Obsg. ....	Kenneth Miller .....	936-931-2724
Novice George Stradley .....	281-376-5787	
Observatory .....	Michael Dye .....	281-498-1703
Program .....	John Blubaugh .....	713-921-4275
Publicity .....	Joe Khalaf .....	713-660-8219
Telescope .....	Mike Hamlin .....	281-489-2926
Welcoming .....	Susan Kennedy .....	281-376-3262
	Hannah Lange .....	832-715-7833

### 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 Obs'v'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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## Welcome to New Members!

The Houston Astronomical Society encourages you to join our group of active amateur astronomers and take advantage of the benefits of membership. As a member you'll have access to the club observing site near Columbus, Texas. (You're required to participate in a site orientation meeting before you get the gate lock combination.) The site has concrete pads for setting up your telescope, restroom and bunkhouse facilities, and areas set aside for camping. You'll get monthly issues of the *GuideStar* newsletter, you'll get to vote and to serve the organization as an officer, and you will be supporting the local amateur astronomy community.

## Special Interest Group Listing

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

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

## 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.ghgcorp.com/cbr/jscas.html>

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

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# President's Corner

April 2005

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by Steve Sartor

We finally have the email capabilities that so many of our members have been asking for. We can now email our members about *GuideStar* availability, upcoming meetings, or any other OFFICIAL business. I would like to note that this list will be kept absolutely confidential. Our treasurer, Bill Flanagan, will be the sole individual with access to the list. It should also be noted that this list is completely separate from the HASlist or the email members list.

Now. .... this is where we need your help. Since many email addresses change so often, we need to keep Bill aware of these changes. All you need to do is send your updated addresses to [treasurer@astronomyhouston.org](mailto:treasurer@astronomyhouston.org). See. .... it's simple.

Last month we held our second general membership-meeting raffle. I'd like to thank everyone that purchased a ticket and I'd like to congratulate Ed Preston for winning the 6" Criterion Telescope. This second raffle raised \$500.00.

*Steve Sartor*

## **Membership Renewals...**

**Your membership is renewable on January 1 of each year.**

Total yearly dues are \$36.

If you paid your dues after the first of 2004, you will only owe for the fraction of the year remaining in 2005. For example, if your dues are paid through March, 2005, you'd owe for 75% of 2005, or \$24.

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!**

# Houston Astronomical Society

## General Membership Meeting

Friday, March 4, 2005

University of Houston

### *Minutes*

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The Meeting was called to order at 8:10 pm and was followed by the President's welcome and meeting information.

The date changes of two of the general membership meetings this year were announced:

May 6 to May 13 due to TSP

September 2 to September 9 due to Labor Day

There were 1 new member and 2 visitors present.

The announcements were as follows:

- Pictures for the H.A.S. list will be taken of members who wish to have their picture displayed on the list
- Congratulations were given to Judy Dye for an excellent banquet
- Clayton Jeter was honored for his service to the H.A.S. with an award for seven years as loaner scope chair
- Steve Sartor announced the availability of Kroger and Randall Share Cards.
- Judy Dye gave a brief banquet recap and announced logo sales.
- Susan Kennedy announced the 46<sup>th</sup> annual Science and Engineering Fair (George R. Brown Convention Center) judging event starting at 1:30pm on 18 March; and the Katy Prairie Conservancy public star party, to begin at 6:30pm on 19 March.
- Robert Dugas asked for sponsors for the AIDS walk he is participating in.
- Brian Cudnik made an announcement about the A.L.P.O.
- Hannah Lange announced an event at the Museum (HMNS) for George observatory volunteers and other amateur astronomers on the evening of March 22.
- James Wooten announced two Museum events and called for volunteers to bring solar telescopes to each: the Sun-Earth day on Sunday, 20 March, from 12pm to 4pm; and Earth day, Saturday, 23 April, from 10am to 3pm
- Steve Goldberg made two announcements
  - The April Speaker will be Tom Greathouse who will be speaking on Titan Results from Cassini
  - The April Novice meeting will feature Team Goldberg – Steve: “TSP for First Timers”; Amelia: “Galaxy Hopping in the Virgo Cluster”
- Don Pearce gave the comet report (for comets brighter than 10<sup>th</sup> magnitude; information on these and other comets is available at the Comet Corner on the H.A.S. website) for the following comets: C2004 Q2 (Machholz) at mag. 5.5, a Deep

Impact mission update, C2003 K4 (LINEAR) at mag. 9.5, C2003 T4 (LINEAR) at mag. 9.5, and C2005 A1 (LINEAR) in the southern skies at mag. 9.

Don Pearce introduced Dr. Pinsky, who gave a talk entitled, “Dynamics of Supernovae”

The Drawing for the 6-inch Criterion telescope took place, with the winner being Ed Preston (the second place prize, a window sticker, was awarded to Brian Cudnik).

The meeting adjourned at 10:01 pm.



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## Observations... of the editor

by Bill Pellerin, GuideStar Editor

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The sun has a mottled surface with numerous features that are easily visible through the Coronado PST (personal solar telescope). There are the long, dark streaks, the dark spots (sunspots) the lighter area surrounding the sunspots (plage), the 'surface' granulation representing the boiling up of heat from the lower layers of the sun, and the prominences leaping off the edge of the sun. It's the prominences that are the best. The sun is about 865,000 miles across, and the earth is 8,000 miles across, so you would have to line up 110 earths across the sun before they would reach from edge to edge. This means that if a prominence is only 1% as large as the sun it's as big as the earth.



Picture taken  
by digital  
camera  
through PST  
eyepiece

Some of the prominences are easily 10% as large as the sun appears to be, so there could be at least 10 earths lined up in the prominence.

I got a Coronado PST telescope (hydrogen-alpha filtered) from our friends at Land, Sea, and Sky the week before last. I was able to try it out last weekend (the 12th and 13th of March) and I've used it today (the 19th). It's not as clear today, and it's supposed to rain tonight, so observing might get to be a problem as the day goes on.

Let me qualify what I'm going to say about the PST by saying that I've never had a solar telescope before, so it's not possible for me to make any comparative judgements about the telescope. That is... I can't tell you if it's better than, worse than, or the same as any other h-alpha telescope. It's certainly a whole lot better than having no solar telescope.

You all know that **looking at the sun requires a filter**, because the sun is such a bright object. There are two types of filters in common use by amateurs. So called 'white light' filters reduce the sun's brightness to a very small fraction of its total brightness. These filters will show you a white or blue-white (usually) disk with sunspots easily visible. This type of filter is relatively inexpensive and can be purchased to fit your existing telescope (probably). What you're seeing is the photosphere of the sun which is actually one layer below the chromosphere. It is the chromosphere that is visible in h-alpha light.

The other filter type is the hydrogen-alpha (or h-alpha). These filters reduce the total light that reaches the viewer, but instead of simply reducing the light at all wavelengths, all light is excluded from the view except light at one wavelength. This h-alpha light exists at the chromosphere of the sun (above the photosphere) and becomes visible through this filter. The good thing about this kind of filter is that, in addition to showing you the sunspots you'll see all the features of the sun that exist in the chromosphere.

Until recently, all h-alpha filters and h-alpha dedicated telescopes were quite expensive. Somewhat beyond the reach of this casual solar observer. Coronado ([www.coronadofilters.com](http://www.coronadofilters.com)) introduced the PST (Personal Solar Telescope) early in 2004, and immediately the demand exceeded the supply. It was an order-and-wait situation. After recent good reviews in both *Astronomy* and *Sky & Telescope* magazines I got interested in getting one.

Now... I have one. The telescope sells for \$499 in a cardboard box, but well packed, with a 12mm Kelner eyepiece, in high density foam. For an extra \$75 or so, you get a nice carry case for the little telescope. There's also an alt-az mount, called the 'Malta', for the telescope, which I didn't get. The telescope mounts well to my TeleVue Telepod mount, although I couldn't find a mounting position that provides perfect balance in altitude. This isn't really a problem because I can adjust the tension in the Telepod bearings to keep it from slipping.

There's a very clever finder built into the telescope that shows a small sun image on the top of the telescope when the sun is aligned with the telescope tube. In practice, so far, I've simply done an initial finding of the sun by watching the shadow of the telescope. This process will easily put the sun in the finder window of the PST.

I then move the telescope until the solar dot is centered in the finder window, and I'm ready to see the sun. The sun appears bright red in the telescope, and all the features are relatively easy to see.

I have used a TeleVue 17mm plossel eyepiece for viewing (23.5x magnification), but the supplied 12mm (33.3x magnification) isn't too bad. The telescope focal length is 400mm.

*Continued on page 8...*

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# Observatory Corner

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By Michael B. Dye Observatory Chairman



Saturday March 12<sup>th</sup> was Members Observatory Night. Even though the night sky was very good, very few members attended. Brian Cudnik ended up operating the Observatory Telescopes and he wasn't even scheduled to be one of the Observatory Telescope operators. He wanted to use the C-14 after Members Night was over (at midnight) and volunteered to be the Telescope Operator for Members Observatory Night. Actually sense none of the Key Holders showed up that were supposed to operate the telescopes in the Observatory for Members Observatory Night, Brian volunteered to substitute for them. Bob Rogers who was the Site Supervisor was very happy to let Brian run the Observatory for the night. Unfortunately, his only customers were Susan Cudnik, Trevor Cudnik and myself. Brian showed us a comet (have no idea what the name was) in the F-5 and Saturn in the C-14. I left after Saturn to have more fun some where else on the Observatory Site. Susan and Trevor crashed (went to sleep) before 10 PM and Brian ended up observing on his own without any more customers. A lot of members missed a very good viewing night.

The reason Judy and I went to the Observatory Site that weekend was to test run a tent that Bob Rogers is lending to us (Judy and me) to use at TSP this year. Judy and I plan to use the tent and so we decided that we need to know how to set up and take down the tent. Bob watched and directed as Judy and I set up the tent. He indicated that that was one of the best comedy acts he had seen for a while. He said that he wished that he had a video recorder to film the activity. After we got the tent up, we inflated the two air mattresses and started stowing our stuff inside.

About 00:30, Judy started getting tired and decided to come to bed in the tent. We finely got to bed about 01:00 in the morning. Things went along relatively well until the front started coming through, about 4:00 in the morning. The wind started blowing. Not badly, but blowing. About 05:10, Judy had to go to the bathroom, she got up and got dressed and headed outside to the bathroom. I stayed in the tent more or less sleeping. Then the wind started blowing hard from the southwest. Then the fun started. The wind blew the tent down by first picking up the west end and dumping it (the west end) onto the middle of the tent. Unfortunately I was still in the tent when this happened. The tent collapsed onto itself when all the tent poles went down. It is not easy to get out of a 10 foot by 14 foot collapsed closed tent in the dark. Judy eventually went into the Bunkhouse to finish sleeping (which she claimed she didn't do – sleep that is) and I sat in the car until the sun came up enough for me to see the tent. About 6:15, I started collecting all the tent stuff and repacked it and put all our stuff back into the car. We left the site about 9:30, short of sleep and resolving to get longer tent stakes and not to pitch the tent in soft wet sandy ground next time. We are

going to try this once more before we go to TSP and hope we have better luck.

The door lock to the East Bathroom (the one without the Urinal) is not functioning correctly. It (the door) doesn't lock very well. In fact, if you pull on the doorknob hard enough (from the outside), the door will pull open. This could be very embarrassing for all parties involved if anyone is using the bathroom at the time. Unfortunately this problem has existed intermittently for the last three months or so. The problem hasn't been much of a problem for that time because of the really wretched weather we have been experiencing and very few people have been using the Observatory Site. However, we (the committee) are in the process of getting two new electronic strikes (that's the part that unlatches to open the door) to replace the bad one plus one spare. This should take about a week or so, then either Jerry Grosman or I have to go out to the Observatory Site and effect a replacement activity of the lock. In the mean time, please don't use the East bathroom for anything important. Please use the West Bathroom until we post the fact that the East Bathroom door lock is repaired.

The next item I want to talk about is the team of Ed Szczepanski and Bob Rogers. These two gentleman have been doing a great job of keeping the Observatory Site grass mowed and the rest of the Observatory Site neat and clean. The new lawn tractor is working very well and holding up to the grass and the workload better than I had hoped. Thank you gentleman for making the Observatory Site so nice for the rest of the membership to use. I also want to especially thank Ed for keeping the bathrooms clean for the last few years. Ed does more at the Observatory Site than any of us will know. Again, I thank you.

While I am thanking people, I would also like to thank Jerry Grosman for replacing the bad lights in the EXIT signs that are on both sides

*Continued...*

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## *Observations... from page 6*

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Like any observation, too much magnification and the image gets 'soft' so it's important to pick your magnification appropriately. My 7mm TeleVue looks a bit soft to me, but that could be the 'seeing' more than anything.

If you've done any observing of the nearby planets or of the moon, you know that you have to watch the object for a while and wait for a moment of good seeing when the object pops into clear view. This is true with solar observing as well. I find that if I keep my eye to the eyepiece for a while I'll get short periods of good seeing that

allow the sun to be seen in its full glory.



Coronado PST on a Telepod mount

The focuser for the PST is on the bottom of the telescope and works for the eyepieces I've tried. There's also a filter tuning knob on the telescope barrel that moves the filter passband a bit. I'm still working with that adjustment.

Anyway, the reviews all say that the larger and more expensive Coronado telescopes give better views. I'm sure that they do. You get what you pay for, after all, and there wouldn't be any market for more expensive telescopes if the cheap ones worked just as well.

Coronado is usually at the Texas Star Party, so I'll be able to

directly compare my little PST with its larger cousins.

Saturday night, March 19th was stormy, so no observing of stars was possible, but with the PST I was able to sneak in some observing time during the day! I've doubled my observing window.

I hope to see you at the Texas Star Party. It's a superb event and the observing lists this year (see [www.texasstarparty.org](http://www.texasstarparty.org)) look like a lot of fun.

I'm told that our friend Clayton Jeter worked on the 'daytime' observing list for the TSP. Check it out.

By the way... I'm taking advantage of my new-found flexibility in putting together the *GuideStar*. This issue is 11 pages long. When we printed the *GuideStar* I had to be careful to make the publication an even number of pages... **no more!!!**

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

*..Bill*

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## *Observatory Corner... from previous page*

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of the road at the Bathroom. Jerry noticed the lights were out back in January and replaced them. I noticed the new lights after dark Saturday night and called Jerry (aren't Cell phones great) to ask him about the new lights. He confessed that he had in fact replaced them. Thanks Jerry.

The Society continues to benefit from members who shop at Randalls and now Kroger's. For this we (the Society) thanks you. Please link your Randalls card to the Houston Astronomical Society so that the society can benefit from the Randalls program. Our number is #6618. This is very easy to do, just go to the Courtesy Booth and tell the person there what you what to do. If you shop at Kroger, we now have a card available (at the General Meeting) that you present at the cash register when you check out. We can thank Joe Khalaf for his efforts in getting the cards.

***Please fill out the appropriate log form when you use the site. Remember we use these forms as attendance records and to report Observatory Site problems such as broken toilets.***

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# Observatory Duty Roster

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by Michael B. Dye, Observatory Chairman

This is the duty list for April, May and June. If you are listed in this roster, please be sure to contact your supervisor for any information that you may need and the date and time to be at the site. You may change from site duty to open house or from open house to site duty by pre-arrangement with the Site Supervisor for that month. Changes between months require Observatory Chairman coordination.

**April Supervisor ..... Allen Gilchrist ..... 281-443-8773**  
Debbie Moran ..... Site  
Mark Mulrooney ..... Site  
Johnny Norris ..... Members Observatory Night 04-02-05  
Richard Nugent ..... Members Observatory Night 04-02-05  
Ralph Overturf ..... Site  
Don C. Pearce ..... Members Observatory Night 04-02-05  
Sim Picheloup ..... Site  
Scott Poteet ..... Site  
Leonard Raif ..... Site

**May Supervisor ..... Brett Maiwald ..... 281-259-3694**  
Eric Rothgeb ..... Site  
Henry Schneider ..... Site  
Linda Sternbach ..... Site  
Larry Wadle ..... Site  
Mark Watson ..... Members Observatory Night 05-28-05  
Tom Williams ..... Site  
Barbara Wilson ..... Members Observatory Night 05-28-05  
Buster Wilson ..... Members Observatory Night 05-28-05  
Payton Barnes ..... Site

**June Supervisor ..... Matt Delevoryas ..... 713-662-2939**  
Kelly Biggs ..... Site  
John Blubaugh ..... Site  
Ken Carey ..... Site  
John Chauvin ..... Site  
Art Ciampi ..... Members Observatory Night 06-25-05  
Brian Cudnik ..... Members Observatory Night 06-25-05  
Gary Delzer ..... Site  
Kay Sandor ..... Site  
George Dolson ..... Members Observatory Night 06-25-05

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## Want Ads

**To Donate: Three mirror blanks** (4", 6", 8"), many grinding grits, a new tripod, a mount, lens kits, and many other items to build three telescopes. Friend would like to donate these items to someone in HAS who builds their own telescopes. She does not want the items sold on E-Bay, etc. I have many pictures I can send to anyone who is interested. Warren A. Eardley [WAEMD@houston.rr.com](mailto:WAEMD@houston.rr.com)  
281-497-0369

**For Sale: Astronomical Camping Trailer.** 1985 Starcraft Nova (pop-up). 24' long when set up. Has a King size bed on one end, a Double size bed on the other end, and the table folds down to sleep a couple of kids. (or short adults) I bought this camper new, it has ALWAYS been stored indoors and is in EXCELLENT condition. Comes with air-conditioning (roof mounted) a small heater that helps some, electric refrigerator, porta-potty, clothes closet and lots of storage space. The interior lights are set to operate on red, white, or both. The porch light is red. \$2500.00 Steve Sartor [steve@sartor.com](mailto:steve@sartor.com) I know I have a picture somewhere, but can't locate one. Come see it!

**For Sale: Meade ETX 90EC Telescope**, and Meade tripod. Used once. Includes Autostar controller. Paid \$850 new 6 months ago – no time for a new hobby. Includes all original boxes and manuals, and carrying case for scope and tripod. Before I put it on eBay, I'd like someone local to enjoy this scope. I'll take \$500 or any reasonable offer. Contact Bill at [beley8@houston.rr.com](mailto:beley8@houston.rr.com).

**Wanted: High quality photographs** of the constellations Andromeda, Cassiopeia, Orion, and Ursa Major for use by my company. Call Richard Braastad at 713-529-4050.

**Wanted: Flexible slow-motion controls** for a light duty alt-az or German mounted scope. Call Clayton @ 281-573-1337

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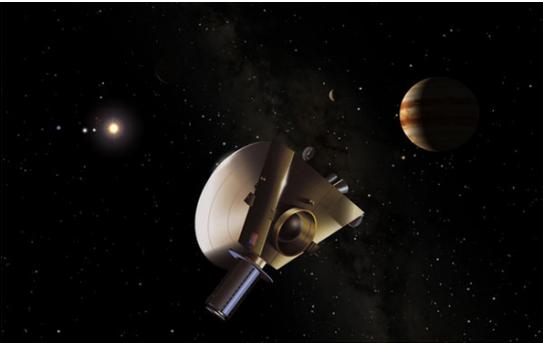
# Utterly Alien

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by Dr. Tony Phillips



There's a planet in our solar system so cold that in winter its nitrogen atmosphere freezes and falls to the ground. The empty sky becomes perfectly clear, jet-black even at noontime. You can see thousands of stars. Not one twinkles.



*New Horizons spacecraft will get a gravity assist from Jupiter on its long journey to Pluto-Charon.*

*Credit: Southwest Research Institute (Dan Durda)/Johns Hopkins University Applied Physics Laboratory (Ken Moscati).*

The brightest star in the sky is the Sun, so distant and tiny you could eclipse it with the head of a pin.

There's a moon, too, so *big* you couldn't blot it out with your entire hand. Together, moonlight and sunshine cast a twilight glow across the icy landscape revealing . . . what? twisted spires, craggy mountains, frozen volcanoes?

No one knows, because no one has ever been to Pluto.

"Pluto is an alien world," says Alan Stern of the Southwest Research Institute in Colorado. "It's the only planet never visited or photographed by NASA space probes."

That's about to change. A robot-ship called New Horizons is scheduled to blast off for Pluto in January 2006. It's a long journey: More than 6 billion kilometers (about 3.7 billion miles). New Horizons won't arrive until 2015.

"I hope we get there before the atmosphere collapses," says Stern, the mission's principal investigator. Winter is coming, and while it's warm enough now for Pluto's air to float, it won't be for long. Imagine seeing a planet's atmosphere collapse. New Horizons might!

"This is a flyby mission," notes Stern. "Slowing the spacecraft down to *orbit* Pluto would burn more fuel than we can carry." New Horizons will glide past the planet furiously snapping pictures. "Our best images will resolve features the size of a house," Stern says.

The cameras will also target Pluto's moon, Charon. Charon is more than half the size of Pluto, and the two circle one another only 19,200 kilometers (12,000 miles) apart. (For comparison, the Moon

is 382,400 kilometers [239,000 miles] from Earth.) No wonder some astronomers call the pair a "double planet."

Researchers believe that Pluto and Charon were created billions of years ago by some terrific impact, which split a bigger planet into two smaller ones. This idea is supported by the fact that Pluto and Charon spin on their sides like sibling worlds knocked askew.

Yet there are some curious differences: Pluto is bright; Charon is darker. Pluto is covered with frozen nitrogen; Charon by frozen water. Pluto has an atmosphere; Charon might not. "These are things we plan to investigate," says Stern.

Two worlds. So alike, yet so different. So utterly alien. Stay tuned for New Horizons.

Find out more about the New Horizons mission at [pluto.jhuapl.edu/](http://pluto.jhuapl.edu/). Kids can learn amazing facts about Pluto at [spaceplace.nasa.gov/en/kids/pluto](http://spaceplace.nasa.gov/en/kids/pluto).

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

### 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

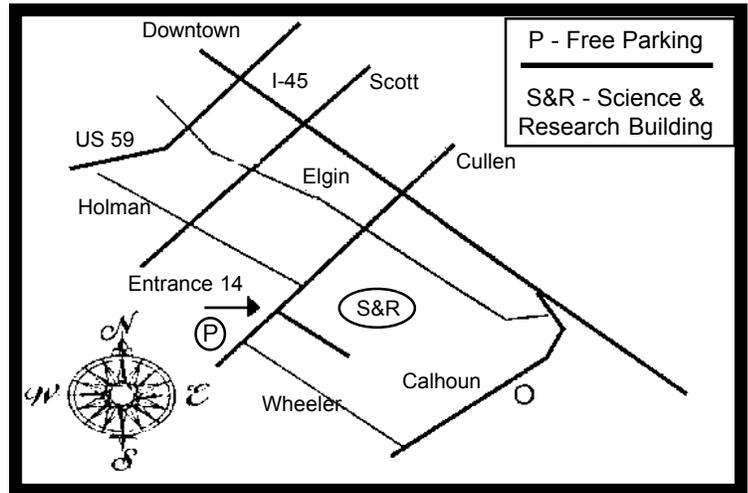
The Board of Directors Meeting is held on dates scheduled by the board at 7:00 p.m. at the University of St. Thomas. Information provided to GuideStar will be published. The meetings are open to all members of the Society in good standing. Attendance is encouraged.

### 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](mailto: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.

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## Houston Astronomical Society

### Meeting

**April 1, 2005**

**7:00 Novice & Site Orientation**

**8:00 General Meeting**

**University of Houston**



## Houston Astronomical Society

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