The Guide Star

Newsletter of the Amateur Astronomers Association of Pittsburgh Inc
Founded June 9, 1929 by Chester B. Roe and Leo J. Scanlon
Website: 3ap.org

February 2011 ***Volume 45, No.2***

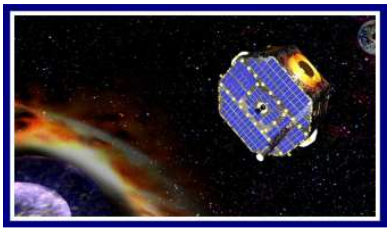
February 11th: AAAP General Meeting

Carnegie Science Center
7:30 pm : Business Meeting
8:00 pm: Buhl Digital Dome Presentation
IBEX: Search for the Edge of the Solar System

Join scientists who are investigating the boundary between our Solar System and the rest of our galaxy in ***IBEX: Search for the Edge of the Solar System***, a program designed for visitors with an appreciation for the challenges of space science and a desire to learn more about scientific research.

IBEX: Search for the Edge of the Solar System follows the creation of Interstellar Boundary Explorer (IBEX), the latest in NASA's series of low-cost, rapidly developed Small Explorers space missions. Audiences will get an in-depth look at the mission and how IBEX is collecting high-speed atoms to create a map of our Solar System's boundary.

Narrated by two inquisitive teenagers, audiences will hear from the scientists and engineers that developed the IBEX mission and created the spacecraft, and get the latest updates on the mission's discoveries.



Roughly the size of a card table, Interstellar Boundary Explorer was launched in October of 2008. Since then, its capabilities have been used in multiple projects.

It was designed to give never-before-seen views of a collision zone far beyond the planets, roughly 10 billion miles away. That's where the solar wind, an outward rush of charged particles and magnetic fields continuously spewed by the Sun, runs into the flow of particles and fields that permeates interstellar space in our neighborhood of the Milky Way galaxy.

While not specifically designed to do so, IBEX recently provided the first image of the plasma sheet, a component of the magnetosphere, the massive structure around the Earth that ebbs and flows in response to the million-mile-per-hour flow of charged particles continually streaming from the Sun. it's also directly collected hydrogen and oxygen from the interstellar medium for the first time.

More information is available at:

http://www.nasa.gov/mission_pages/ibex/index.html

Night Sky Network Volunteers to be Honored

We'll be honoring our dedicated NSN Logged Event Volunteers with 2010 NSN Service Pins. These will be distributed at a monthly meeting during early 2011. They bear a solar system motif, for the International Year of the Solar System 2010. Appreciation goes to all our volunteers as well as to the members garnering pins listed below. Pin recipients volunteered at 5 or more NSN Logged Events.

Allinger, Steve	Klein, Fred	Paslow, Al
Bishop, Melody	Kobus, Ken	Pastin, Frank
Close, John	Kulakowski, Gene	Pollack, Cindy
Colbert, Tim	Landman, Jack	Pollack, Ron
Cousineau, Dan	Manka, Tim	Reiland, Tom
DeSantis, Kathy	Marshall, Robert	Seitz, Lori
DeVaughn, Mary	Maskas, Matt	Smith, Dave
Diller, John	Meteney, Mike	Smith, Glenn Smith,
Fischer, Eric	Moss, Ed	Sierra
Hayeslip, Bill	Moutz, Bill	Stifel, Flac
Hoecker, Don	Norman, Ann	Watson, Wallace
Kelly, Bob	Osborne-Fischer,	Yorkshire, Bill
	Joyce	Yorkshire, Diane

NSN Logged Events include Wagman Observatory and Mingo Observatory Public and Private Star Parties, CSC Astronomy Weekend, Westmoreland County Earth Day, Frick Park Earth Day, Passavant Retirement Community, Cinema Under the Stars, Christmas Party, Harvest Moon Campfire, etc. See the events list of logged events on the AAAP NSN Website.

If you believe you have volunteered at 5 or more events but don't see your name on the list please get back to me, or Ed Moss as soon as possible.

Thank you. Kathy DeSantis

An Upcoming Event: Haydn's The Creation

The Pittsburgh Concert Chorale will present Franz Joseph Haydn's masterpiece, The Creation.

Performance dates are: March 5 at Ingomar United Methodist Church at 8pm and March 6 at Fox Chapel Presbyterian Church at 4pm.

This oratorio has been called Haydn's most inspired work. Drawing on

passages from Genesis and the Psalms as well as from Milton's Paradise Lost, Haydn musically unfolds the creation of the world, from chaos, through each day of creation, to the creation of man.

The performances will feature the 90-voice Chorale, four outstanding soloists, the Academy Chamber Orchestra , David Billings, organ and Susan Medley, Music Director.

Tickets can be purchased online at www.PCCsing.org or by calling the office at 412 635-7654. Ticket prices, Adult: $17 on line or $20 at the door; Students, $8; Children, 11 and under, free.

Chorale singers and AAAP members include Jeff Kearns, Dave and Helen Houggy.

At both concerts AAAP volunteers will present displays relating to the ongoing creation of suns, planets and other astronomical phenomena.

Mike Simonsen on Astronomy: Hobby or Obsession

I've often wondered if astronomy is still a hobby for me, or if it has evolved into something much more serious. Have I become *obsessed*?

To begin my quest for the truth, I looked up the definition of astronomy in several sources. The one that seems the most sensible is: "The scientific study of the universe and of objects which exist naturally in space, such as the moon, the sun, planets and stars."

So, what then, is a hobby? Research yielded these results: "A pursuit outside one's regular occupation engaged in especially for relaxation."

"An activity which someone does for pleasure when they are not working."

Adding them together I'm not sure what to think about this concept: "The scientific study of the Universe for relaxation and pleasure"? Sounds kind of crazy, doesn't it?

I was sure I was in trouble when I looked up the definitions of obsession. The first definition wasn't so bad: "A compelling motivation."

Yes, I think I have been compelled and motivated by astronomy in many ways. But then I read: "A *persistent disturbing preoccupation* with an often unreasonable idea or feeling." Eeew, that's creepy.

"Something or someone that you think about all the time." Double eeew, that's really creepy. I may have a problem. I do think about it all the time. I'm thinking about it right now!

How do we tell the difference between a nice, well-adjusted hobby and *astronomy obsession*? What are the signs of *astronomy obsession*? Is there a cure? Apparently, my search for the truth had just begun. The evolutionary path that many amateur astronomers take seems benign at first glance. But as you will see, this path is fraught with danger at every step.

Stars - The imagination and curiosity of individuals is often sparked by their first experience seeing the stars overhead from a very dark sky. This can happen on a camping trip or a vacation to a remote part of the world, far away from city lights. Most city dwellers, about 60% of the world's population now, never see the Milky Way from their homes. In fact, so few stars can be seen with the unaided eye from the city that most people just don't bother to look up any more.

Constellations -Once they can actually see stars, patterns in the sky become obvious and the curious newbie astronomer will learn the bright constellations like Orion, Ursa Major, Leo, Scorpio and others, until they know their way around the sky fairly well. In order to see fainter objects the amateur may purchase her first pair of binoculars and learn the sky to more depth

First Telescope -The acquisition of the first telescope can be the first real dangerous step on the road to destruction. The first look at the Moon through a telescope is often all it takes to get a person hooked on astronomy. Seeing Jupiter and the Galilean satellites for the first time stirs feelings in most people they didn't know existed. The first look at Saturn and its rings is nearly 100% fatal. I think there should be a warning label on every telescope box saying, "WARNING: Looking through this telescope may change your life forever!"

Messier Objects - It is the quest to observe all the Messier objects that is the event horizon for most amateur astronomers. Once this boundary is crossed, there is no escape for the unwary amateur. It begins simply enough with casual peeks at the Orion nebula or the Pleiades. Then many of the other bright Messiers become well known to them, and oft visited. Most of the passionate amateurs I know can literally kick their Dob and land it on M81 and M82, after years of showing these two fine galaxies to everyone they know.

This journey usually ends in frustration trying to eek out detail in M108 or the madness of trying to view all the Messiers in one night, an exercise in futility known as the 'Messier Marathon'.

Aperture Fever! - The frustration experienced by amateurs, trying to see faint, fuzzy objects with their first pair of binoculars or their first modest sized telescope, leads to the first obvious symptom of astronomy obsession- Aperture Fever.

This is the unquenchable thirst for larger and larger telescopes and binoculars with which to view fainter and fainter objects. The history of astronomy in the last 400 years is littered with the wreckage of amateur and professional astronomers investing their hearts, minds, souls and money into the quest for larger and larger telescopes! This affliction is so serious I am devoting another piece to this subject alone.

NGC and other faint object catalogs - Once hopelessly obsessed with viewing fainter and fainter galaxies, clusters and nebulae, the amateur discovers the New General Catalog and other catalogs and observing lists from which to satiate their appetite for photons emanating from faint, distant sources. As if this weren't madness enough, many take the next step into astrophotography or photometry!

Deep sky photography and CCD imaging - It is with complete reckless abandon that the amateur dives head first into deep sky imaging and photometry. Once she has gone this far there is no stopping her until she hits rock bottom. Nothing else matters anymore, and there is little hope for intervention or salvation until the amateur is insane or bankrupt.

All of this can be graphically represented in what is now known as the *Simonsen T-M Diagram*. *[See last month's Guide Star*]

Other sure signs of impending ***astronomy obsession*** for the concerned spouse, relative or friend to look for are:

- *Observing alone*
- *Making excuses, finding excuses to observe*
- *Daily or frequent astronomy fix needed to function*

- *Inability to reduce or stop astronomy activities*
- *Becoming angry when confronted about astronomy habit*
- *Poor eating habits, increased coffee intake*
- *Failure to care for physical appearance*
- *Inability to remember or function properly the next morning*

Misery loves company, so inevitably the obsessed astronomer will end up joining mysterious, secret societies and organizations of similarly afflicted astronomers. The danger these organizations pose to you or your loved ones is directly proportional to the number of letters in the acronym associated with them.

AL- Astronomical League (relatively benign)
ASP- Astronomical Society of the Pacific (could be trouble)
ALPO- Association of Lunar and Planetary Observers (time for concern)
AAVSO - American Association of Variable Star Observers ("Houston, we have a problem")
BAAVSS - British Astronomical Association Variable Star Section (it may be too late
BAAVSSSSC- British Astronomical Association Variable Star Section Supernovae Search Committee (these people are completely mad, avoid any contact whatsoever!)

Where to go for help - If you or a loved one has succumbed to astronomy obsession or addiction there is help, Astronomy Addicts Anonymous (AAA).

The Seven Step Program of AAA is very similar to many twelve step programs for other addictions. Astronomy addiction is not nearly as serious as most addictions, people rarely die from it, so only seven steps are required for the recovering astronomer.

1. We admitted we were powerless over astronomy.
2. Came to believe that only a power greater than ourselves could restore us to sanity.
3. Made a decision to turn our will, our lives and our pocketbooks over to the study of the Universe, as we understand it.
4. Made a list of all persons we had ignored or taken for granted, and became willing to make amends to them all.
5. Made direct amends to such people wherever possible, except when to do so would cause us to miss a clear night.
6. Seek through prayer, meditation, observations and Internet connection to improve our conscious contact with the Universe, as we understand it, seeking only knowledge and good weather.
7. Having had a spiritual awakening as the result of these steps, we tried to carry this message to other obsessed astronomers, and to practice these principles in all our affairs.

If followed faithfully, the astronomer may once again become a functioning member of society, but he will never return to a completely normal life. The best we can hope for is some inner peace and an acceptance of our relationship with the cosmos, as we understand it...

This is the second of three articles in which noted variable star observer Mike Simonsen takes a light hearted look at amateur astronomy.

He mentions that the final topic in the series will treat aperture fever, an affliction which affects most, if not all, amateur astronomers from time to time.

We hope to send this along in next month's Guide Star

– Guide Star Editor

On the Surface of Giants….

Jupiter and Saturn are currently undergoing processes that are both interesting and available to amateur telescopes.

As of this writing (mid -January), Jupiter's expected SEB revival continues apace with a dark band that now encircles the entire planet. From this point, previous revivals have proceeded with a continued darkening of the SEB, a subsequent spreading of an orange tint throughout the belt and a fading of the Great Red Spot .

In this image of Jupiter taken January 14th 2011, Io is in transit above the reviving Southern Equatorial Belt (SEB).

Image courtesy Christopher Go Cebu City, Philippines

Over the past two months, the disturbance in Saturn's northern hemisphere, imaginatively called the "dragon storm", has continued to grow. There is a long history of light-colored or white spots appearing in the planet's equatorial region and its northern hemisphere and a cycle roughly corresponding to its 29.4 year orbital period has been suggested. The disturbances seem to emerge close to the planet's summer season in the regions affected. The jury is still out apparently.

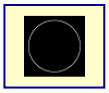
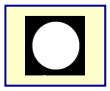
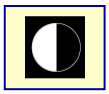
North is at the top in this recent image of the Saturn disturbance from an unattributed internet source.

These recurring phenomena are thought to be caused by clean or fresh ammonia breaking through the layers of methane and ammonia in the upper atmosphere that have taken on a yellow-orange color due to prolonged exposure to sunlight.

The current storm is at a latitude (System III) whose rotational period is approximately 10 hours and 39 minutes, a figure an observer might use to derive a prediction time.

A description of what visual observers have recorded during previous apparitions is available in *The Planet Observer's Handbook* by Fred Price.

Near the turn of the last century, the failure of some large observatory instruments to detect the Saturn spotting seen with smaller telescopes led to a controversy about suitable planetary aperture and types of visual acuity required. An interesting discussion of this can be found in *Planets and Perception* by William Sheehan. ***– Guide Star Editor***

Sun	Mon	Tue	Wed	Thu	Fri	Sat
		1	**2** 	**3**	**4** Clyde Tombaugh discoverer of Pluto born 1906	**5** Jupiter moves north of the celestial equator
6 At twilight Jupiter close to 4 day old Crescent Moon	**7**	**8**	**9**	**10**	**11**  AAAP General Meeting 7:30 Planetarium Show 8:00	**12**
13	**14**	**15** 12 day old Moon occults 4th mag zeta Geminorum 03:58 local close to western horizon.	**16**	**17** Neptune farthest distance from Earth 31.001 AU magnitude: 8.0 Conjunction on this date.	**18** 	**19**
20 Planetary Conjunction: Mercury & Mars	**21**	**22**	**23**	**24** 	**25** Superior Conjunction: Mercury	**26**
27	**28**					

All times given are local.
UT time of New Moon places it on the 3rd of February.

Details for AAAP Events can be found at:

https://nightsky.jpl.nasa.gov/event-list.cfm?Club_ID=675&EventEra=Future

Some Celestial Highlights for February

Mercury disappears into the light of dawn early in the month.
Venus is a morning object all month rising at 04:32 on the 1st, ; 04:46 on the 14th and at 04:55 on the 28th.
Mars is not visible and is in conjunction with the Sun on the 4th.
Jupiter begins the evening well west of the meridian and by month's end both will set around 20:00.
Jupiter move north of the celestial equator on the 5th and will remain above it until 2016.
Saturn rises around 23:00 at the beginning of the month and is visible all night. Note in 2011 we'll see the northern surface of the planets rings. Their inclination will varies from 10.1° in early January, decreasing to 7.3° in early June and increasing to 14.8° at end of year. Also note that Saturn now lies below the celestial equator, a situation which will hold until March of 2026.
Uranus begins the evening well west of the meridian and by month's end both will set before 20:00.
Neptune is not visible.

For those using programs to predict GRS transits, ***Jupiter's System II longitude*** is 157°.

Selenographic Colongitude is 228.97° at 0h UT at beginning of the month. Add 12.2° each day.

Welcome New Members

Brendan Connolly & Family

Guide Star Submissions

All AAAP members are encouraged to submit items to the club newsletter.

Articles, images, observations, notices, ads, book, software and equipments reviews, all are welcome.

Only submissions received before the 15th of the prior month are assured of inclusion in the coming issue.

The Guide Star is posted online and sent to print on the 20th of the prior month.

Send submissions or questions to: gseditor@3ap.org

February Daily Observer's Table

These local times may help in planning observing sessions. Rise and set times are self-explanatory. Twilight represents when the rising or setting Sun reaches 18° below the horizon. Darkness represents time between twilights when the Moon is also absent from the sky. Phase is the percent of lunar surface under illumination as seen from Earth at midnight on the date in question.

Date	Sunset	Twilight	Darkness	Twilight	Sunrise	Moon Rise	Moon Set	Phase
Tue 01	17:37	19:11	19:11 - 05:55	05:55	07:28	06:26:37	16:30:17	0.035
Wed 02	17:38	19:12	19:12 - 05:54	05:54	07:27	06:59:24	17:32:21	0.008
Thu 03	17:40	19:13	19:13 - 05:53	05:53	07:26	07:27:51	18:33:07	0.001
Fri 04	17:41	19:14	19:32 - 05:52	05:52	07:25	07:53:22	19:32:29	0.013
Sat 05	17:42	19:15	20:30 - 05:51	05:51	07:24	08:17:12	20:30:52	0.042
Sun 06	17:43	19:16	21:28 - 05:50	05:50	07:23	08:40:25	21:28:52	0.088
Mon 07	17:45	19:17	22:27 - 05:49	05:49	07:22	09:04:08	22:27:08	0.149
Tue 08	17:46	19:18	23:26 - 05:48	05:48	07:20	09:29:25	23:26:11	0.221
Wed 09	17:47	19:19	00:26 - 05:47	05:47	07:19	09:57:31	--:--:--	0.304
Thu 10	17:48	19:20	01:26 - 05:46	05:46	07:18	10:29:54	00:26:11	0.395
Fri 11	17:49	19:21	02:26 - 05:45	05:45	07:17	11:08:12	01:26:44	0.492
Sat 12	17:51	19:22	03:24 - 05:44	05:44	07:16	11:54:00	02:26:42	0.591
Sun 13	17:52	19:24	04:17 - 05:43	05:43	07:14	12:48:25	03:24:17	0.690
Mon 14	17:53	19:25	05:05 - 05:42	05:42	07:13	13:51:19	04:17:31	0.783
Tue 15	17:54	19:26	None	05:40	07:12	15:01:09	05:05:09	0.867
Wed 16	17:55	19:27	None	05:39	07:10	16:15:23	05:47:02	0.934
Thu 17	17:57	19:28	None	05:38	07:09	17:31:37	06:24:01	0.980
Fri 18	17:58	19:29	None	05:37	07:08	18:48:17	06:57:29	0.998
Sat 19	17:59	19:30	19:30 - 20:04	05:35	07:06	20:04:43	07:29:01	0.987
Sun 20	18:00	19:31	19:31 - 21:20	05:34	07:05	21:20:42	08:00:16	0.947
Mon 21	18:01	19:32	19:32 - 22:35	05:33	07:04	22:35:52	08:32:48	0.880
Tue 22	18:02	19:33	19:33 - 23:49	05:31	07:02	23:49:12	09:08:15	0.793
Wed 23	18:04	19:34	19:34 - 00:58	05:30	07:01	--:--:--	09:48:07	0.693
Thu 24	18:05	19:35	19:35 - 02:02	05:29	06:59	00:58:39	10:33:35	0.585
Fri 25	18:06	19:37	19:37 - 02:58	05:27	06:58	02:02:28	11:25:02	0.476
Sat 26	18:07	19:38	19:38 - 03:46	05:26	06:56	02:58:43	12:21:42	0.372
Sun 27	18:08	19:39	19:39 - 04:27	05:24	06:55	03:46:46	13:21:52	0.276
Mon 28	18:09	19:40	19:40 - 05:01	05:23	06:53	04:27:16	14:23:30	0.191

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AAAP Member Dues:	**$ 24.00**
Student Membership (K-12 & full time college student):	**$16.00**
Family Membership	**$ 40.00**

Basic Procedure for Paying Dues:

1. Make check payable to "AAAP Inc."
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