



Northwest Skies

The Official Newsletter of the Tacoma Astronomical Society
Tacoma, Washington State, USA

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76 Years of Amateur Astronomy in the Pacific Northwest

October 2007

Preface to the October Newsletter

by Alice Few

In late August 2007 Sion Heaney stepped down as the editor of the Northwest Skies. If you missed the email, Ken Board summed up what all of us on the board were feeling with these simple words.

"Sion Heaney is currently our Newsletter Editor and has done a fantastic job over the past few years. It is with a heavy heart that I must report that due to family and work commitments he can no longer edit the newsletter and get it posted to the website. Without an editor, the newsletter will die. This is a huge source of information for every member of TAS. If anyone is willing to take this on, please let us know." -Ken Board

I volunteered to step in and help Northwest Skies continue to run and as I look at the task ahead I can honestly, and with great humility say, "How in the heck did Sion ever get all of this done!" Sion, your wordsmith skills will be sorely missed.

On that note I could use some help! Please send articles, pictures, stories, calendar items...dash I'll even take a good recipe or two...to Alice Few (few_2001@yahoo.com) I'll try and get it right, I'll most likely fail :-), but at least that would get your attention eh!

The President's Letter

by Dave Armstrong

(As many of you know this year TAS moved our Astro Fair to Pioneer Park in front of the Puyallup Library, home of the Puyallup Farmer's Market. Dave Armstrong reports on the fair.)

Astro Fair 2007 (August 18th) had positive and negative aspects. On the positive side, we had a lot more public attendance than in previous years at Pierce Collage. Being on the site of the Puyallup Farmer's Market there were many more people milling around.

Outside we had solar viewing, astro-golf, stomp rockets, a sun dial demonstration showing how to find "North", comet making, and info booths for both the public and teachers.

In the library nearby, there were rooms for building planispheres, spectroscopy

*Greg and Henry help with stomp rockets at Astro-Fair
...the infamous 'gravity assist' launching technique!*

demonstrations, etc.

On the negative side, the rain poured down in the afternoon....The good side to that was the Library rooms filled up for the demonstrations!

By 4:00 PM the clouds and rain looked permanent, so we decided to pack up and leave. Many had said they would come back in the evening if it were clear to see the Moon and Jupiter and whatever else we could find. Sorry to disappoint them.

Keep looking up!



Northwest Skies is a bi-monthly publication of the Tacoma Astronomical Society. All opinions expressed in this newsletter are those of the contributors and not necessarily those of the Tacoma Astronomical Society.

Original article contributions are strongly encouraged and may be submitted as an email attachment to editor@tas-online.org

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www.tas-online.org

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What's Up In Astronomy

by Bert Brown

Astronomy and physics are closely allied subjects, and the journal *Physics Today* often has news topics of interest in astronomy. Here is a brief summary of astronomy-related items in the July 2007 issue:

Bertram Schwarzschild (pp.17-19) tells of the most luminous supernova ever discovered, SN 2006gy--and theorists are scrambling to figure out a mechanism that would explain it. A grad student of U. of Texas, Robert Quimby, discovered it on Sept. 18, 2006, while using a 46-cm telescope at the McDonald Observatory in west Texas.

It is in a minor galaxy in the Perseus cluster, 200 million light-years away. It peaked in luminosity about 40 days after discovery, and 70 days after the explosion. It was 10 times brighter than a Type Ia, the brightest of the ordinary supernovae, and was still going strong 5 months later, much longer than a Type Ia. A photo in the magazine shows a star much brighter than its host galaxy. The total radiated energy at visible wavelengths has been estimated at 10^{44} joules. Various mechanisms proposed for this outburst are presented in the article, so we will defer a more complete report until they can sort out the best theories; but it seems likely that the original star must have been very massive, of the order of 100 solar masses.

Johanna Miller (pp. 22--24) describes a research team's results which imply that Mercury's inner core is at least partially molten.

On Earth the magnetic field is caused by self-sustaining dynamo action of the molten core. Old results of the Mariner-10 mission (1974) detected a weak magnetic field in Mercury, which was a surprise because it was thought its core was solid. So there was a suspicion that Mercury's core might also be molten. The research team carefully analyzed a complicated experiment using radar return data detected at two receivers, in California and West Virginia. A slight wobble in Mercury's spin rate provided information about the inner core, and preliminary results indicate that it is indeed partially molten.

Fae L Korsmo (pp. 38-43) reminds us that this year and next mark the 50th anniversary of the International Geophysical Year (IGY): 1957-58. It behooves us to learn as much as possible about our own planet, and this was the goal of IGY. But besides the scientific interest, there were also political and military factors---we were in the middle of a Cold War, and Soviet cooperation was intermittent. The first earth-orbiting satellites were launched; the Soviets beat us into space with Sputnik, but we soon caught up.

Other achievements include the discovery of the Van Allen radiation belts, the Antarctic treaty, the World Data Center system, and monitoring of atmospheric carbon dioxide. IGY was timed to coincide with a solar sunspot maximum, and the upper atmosphere and solar radiation were studied extensively. Glacier research was an important component, both in polar regions and elsewhere; in this state there was a major project on the Snow Dome of Mt. Olympus at about 7000 feet elevation. Ms Korsmo takes us through the political, military and scientific development of IGY in an article entitled "The genesis of the International Geophysical Year."

(Continued from page 2)

In two short articles under the heading of "Issues and Events", Toni Feder (pp.31--32 and 34) describes astronomy research programs in China and Russia. A "Hard X-ray Modulated Telescope" (HXMT) is to be China's first astronomy satellite chosen by peer review (instead of by government officials.) Scheduled for launch in 2010, it will survey the sky in the 20-250 KeV range. Feder also reports that Russia hopes to revive activity in the World Space Observatory, (WSO), a project started under the old USSR but which became dormant when the Soviet regime folded. They hope to build and launch a UV space telescope in the first part of the next decade. Spain has signed on as a sponsor of the program, and China, Italy and Germany are expected to join the project also; many other countries may provide supporting roles. China's contribution to the WSO may be a long-slit spectrograph. The US apparently will not be part of these efforts, as there are too many legal and security issues which inhibit participation; and our scientists apparently feel that funding such foreign projects would detract from our own goals. *gr*

Student Club Report

by Ken Slavens and Alice Few

Our TAS student members have been busy all summer long! The students pitched in and helped at the farmer's market, several outreach events, and Astro Fair on top of their own student schedule. Here are some highlights of the past few months.

We had a great turn out for our annual "Challenger Mission" at the Museum of Flight. For those not familiar with the mission the group is divided into two teams; mission control and the shuttle team. On top of the job of launching, navigating, and routine shuttle tasks the teams are given specific scientific experiments and tasks to complete. Of course there are the 'unexpected' emergencies thrown in just for fun. (Not fun when someone says..."Hey, where did all the oxygen go?")

This year our mission was to take a manned mission to Mars and return them safely. Obviously we would still be at the Museum if we had launched from Earth, we conveniently launched from an orbiting space station instead. Everyone did great, we returned safely home, everyone NOW appreciates the difference between a 'blue' indicator and 'purple' indicator and our emergencies were handled with...ummm.. composure???

Next up was the Table Mountain Star Party! We had a nice turn out with our largest group of 'newbies' to date. Every one of the students worked on the TMSP Observing Award and they all bagged at least 50% of the targeted items. Our own Leon Hardman was one of only 32 TMSP participants who fin-

ished...and he wrapped up the list with NGC 253 which in July is not a friendly find! All total we had more than a dozen TAS student members involved in some serious object hunts. Special thanks to Leon, Greg, and Michael for taking a night out to help the new arrivals!

Astro Fair was fun...as usual and we enjoyed having more public to entertain. Many of our student members showed up to help both outside and inside and all was well until the deluge! Maybe next year we can pull out those telescopes and strut our stuff.

The last event of the summer was our family potluck. One would think the best part of the potluck would be the food...don't get us wrong the food is great (thanks to Carl and his grill) but nothing compares to our annual cardboard luge! The steep hills around the 'bowl' behind the Cascade building makes a perfect summer luge run...the drier the summer the better the run!

Up Next?

Our upcoming student meetings will include topics in:

Physics

Cosmology

Spectroscopy

Our Final Jeopardy Meeting

and of course our year end

New Year's Party!

Oh! And lots of viewing!



Katie —smiling because she landed the shuttle safely or because Michael is stuck in the box with the radioactive sample?

Monthly Messier Objects

Our October tour includes two nebulae and the clusters that power them, four open clusters, a star cloud, and lastly two globular clusters. All of these objects are possible in binoculars, most are easy in even small binoculars.

M24 - It is easily seen with the naked eye as a fuzzy, oval patch about four times the size of the full moon. The best views are through binoculars or rich field telescopes.

M25 - M25 lies in the same binocular field as M24. In binoculars it appears as a partially resolved star cluster buried in faint nebulosity. A view through a telescope shows the nebulosity is in fact many faint stars that are not resolved in small instruments.

M18 - In binoculars M18 is easy to see as a small fuzzy patch of light in the same field of view as M24. Telescopes reveal this cluster for what it is, a small, sparse collection of fairly bright stars.

M17 - Just north of M18 and in the same binocular field as M24 and M18 lies the Omega nebula. Possible to see with the naked eye and easy with binoculars. A telescope will show the unique V shape nebulosity that gives the cluster its name.

M16 - To the naked eye and binoculars, this small patch of haze is very similar in appearance to M17 which is in the same binocular field of view. Through a telescope the M16 looks like a sparse open cluster of stars surrounded by faint wisps of smoke.

(Continued on page 6)

• **Oct 2nd:**
General Meeting.
Please note we are meeting at Wyatt Hall, Room 109 at UPS 7:30 PM.

• **Oct 4th:**
Outreach event Museum of Flight
7:30 PM—Midnight

• **Oct 5th:**
Outreach event Olympic Flight Museum Star Party
7:30 PM—Midnight

• **Oct 11th:**
Outreach event Stomp rockets McAlder Elem
2:30 PM—4 PM

• **Oct 12th:**
Student Viewing (possible weekend star party)

• **Oct 12th:**
Member only star party Bill Briggs House
8:00 PM

• **Oct 13th:**
Public Night Pierce College, Olympic Bldg
'Asteroids' 7:30 PM.

• **Oct 16:**
Board of Director Mtg
7:30 PM—9 PM

• **Oct 26th: Student Meeting** Cascade Bldg 7:30 PM


















• **Oct 27th:**
Public Night Pierce College, Olympic Bldg
'Trick or Treat' 7:30 PM.

• **Oct 28th: Time Change!**
Turn the clock back 1 hour

October 2007

TAS Winter Schedule begins!!

Public Nights are 7:30 PM at the Olympic Building at Pierce College

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|  | 28 | 29 | 30 | 31 | | |
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 Public Night

 Student Activity

 Outreach event

 Member activity

 Meeting

 Time Change!

Monthly Messier Objects

This month we will search for seven more objects from the Messier Catalog. These include four globular clusters, the largest and the smallest planetary nebulas in the catalog, and a small oddity. Two of the objects are fairly easy in binoculars, while four others will require dark skies, patience, and keen eyes to find.

M57 The famous Ring nebula in the constellation Lyra. Low power telescope views show a very small blue/green disk, not much bigger than a star. Medium to high power will magnify the size of the nebula while leaving the surrounding stars the same size, confirming you have found it.

M56 In a telescope look for a small round ball of light, slightly brighter in the center. This is a difficult binocular object appearing as a small fuzzy patch.

M27 Also known as the Dumbbell nebula. In small to medium scopes it appears as a rectangular patch of light. In large scopes it may even appear round in shape with a bright rectangular, or dumbbell shaped core.










M71 Lying in Sagitta, this globular cluster appears as a faint oval hazy patch of light in a telescope. This is a very difficult but possible binocular object, requiring dark skies and trained eyes.

M30 This globular cluster, in telescopes, show a small fuzzy ball of light, bright in the center fading to the edges.

M72 This is a small faint globular cluster in Aquarius. Look for a faint oval patch of light, gradually brighter towards the middle. A very difficult binocular object.

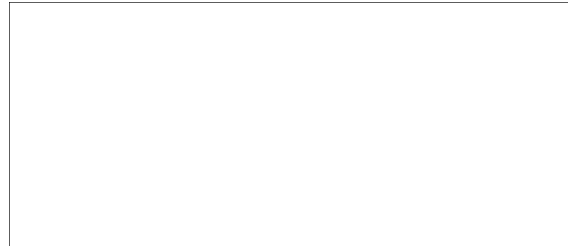
M73 This asterism is located near M72 in Aquarius. In a low power telescope view it looks like a very small fuzzy patch of light at first glance. When stared at it reveals itself as a small collection of stars. Medium to high power shows the view best described by Messier "cluster of three or four stars...containing very little nebulosity".

November 2007

| Sun | Mon | Tue | Wed | Thu | Fri | Sat |
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| 25 | 26 | 27 | 28 | 29 | 30 | |

- Nov 3rd: Public Night.**
 Pierce College, Olympic Bldg
 'Telescopes and Binoculars' 7:30 PM.
- Nov 6th: General Meeting.**
 Please note we are meeting at Wyatt Hall, Room 109 at UPS 7:30 PM.
- Nov 9th: Student Observing**
- Nov 16th:: Student Meeting**
 Cascade Bldg 7:30 PMM
- Nov 17th: Public Night**
 Pierce College, Olympic Bldg 'The Moon' 7:30 PM.
- Nov 20: Board of Directors Meeting** 7:30 PM

Northwest Skies



First Class

(Continued from page 4)

M26 - Continuing to head north through the Milky Way we find this open cluster in the constellation Scutum. Telescopes partially resolve this cluster and show several stars buried in a faint glow from the unresolved stars.

M11 - The Wild Duck Cluster. Possible to see with the naked eye, binoculars show a small faint patch surrounding a bright star. Telescopes resolve many of the stars in this very rich cluster.

M55 - Dipping back into Sagittarius we find two more globular clusters waiting for us. The first is one of the brightest and largest globulars in the catalogue. Possible to see naked eye, it is an easy binocular object appearing as a bright fuzzy ball of light. Telescopes show a round patch of light bright in the center and fading toward the edges. Large apertures are needed to resolve this globular.

M75 - The last object of the month, and the last object to be visited in Sagittarius. In binoculars, M75 is not too hard to see, look for a small fuzzy star. A telescope will show a small fuzz ball with a bright center.



Want to Help Science?

Scientists in Colorado studying light pollution could use your help. For the next two weeks, they want people to search the sky for constellations (in North America, we're looking for Cygnus) and share what they see. The goal is to get a better picture of light pollution around the world.

Anyone can participate, but you'll probably need an adult's help.

Can you identify this??!

One of our talented members took this photo. Guess who it is and correctly identify the object and win a special prize at the November General Meeting.

To learn more, go to <http://www.windows.ucar.edu/starcount>.

If undelivered, please return to

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We're on the web!
WWW.TAS-ONLINE.ORG

Membership

Subscriptions for 2007

Membership subscriptions for 2008 are now due. Please mail your membership renewal to

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or bring your check along to the next General Meeting.

Membership dues are the primary income for the society and it allows us to fund member activities and parties as well as the Outreach and Student Programs. Your membership is very important to us.

The annual fees are:

Family: **\$35.00**
Adult: **\$25.00**
Student: **\$15.00**
Senior: **\$10.00**