



Penobscot Valley Star Gazers

An Astronomical Society of Central Maine

<http://www.gazers.org>

July 2008

Large Rocks From Space

Along with the Moon, the PVSG meeting will reach the farthest point of its “orbit” on July 14 when club members gather at 6:30 p.m. in room 310 at John Bapst Memorial High School. This month big, dangerous rocks will loom over us as Dale discusses an article from *Atlantic Monthly* about killer meteorites.

Thanks for last month’s program go to Peter Lord of the Island Astronomy Institute for discussing his state of the art nightscape surveying system.

Quantifying the Night

June 9, 2008



June 2008

The meeting was brought to order around 6:40pm by Scott. With 16 members in attendance, Scott introduced our guest speaker. Peter Lord, of the Island Astronomy Institute (<http://www.island-astro.org>), spoke to us about his organization’s nightscape surveying system.

Peter is a consulting Senior Satellite Systems Engineer with Stellar Solutions in Palo Alto, CA. He has 20 years experience as an aerospace engineer. Peter and his wife operate a guest cottage with observatory at their home in Tremont. He understands the economic value of a pristine night’s sky.

Peter gave us a brief overview of humankind’s need to light the night and how that has affected our view of the night’s sky. He provided satellite views of light generated by our civilization and how much it has expanded in just the last 10 years. The Island Astronomy Institute’s nightscape survey system is state of the art, research grade equipment that documents light pollution visible across the sky. The data is then plotted to provide a sky dome view of the quality of the night’s sky. The US National Park Service declared starlight a natural resource in 2006. Since then they have been leading the way in quantifying and learning how to manage this resource. The Island Astronomy Institute is the first organization outside of the National Park Service to collect this data. The data, and its accompanying charts, are used to assist towns on MDI, in and around Acadia National Park, in developing ordinances and plans to control or reduce light pollution. This technology and how it is presented to the public goes a long way to making astronomy mainstream.

Discussion followed Peter’s presentation.

Questions were asked by Scott about where he, as a teacher, could find resources for his students. Peter referred him to their website, <http://www.islandastro.org>. Robert talked about the night sky back in the late 40’s on MDI. He spoke of the great fire in 1947 on the Island and how it changed the landscape on the Island. Robert also mentioned that the night’s sky grew even darker after Labor Day due to the marked decreases in population as businesses closed

and tourists went home. Wade wondered about how light zoning could be tailored for communities. Peter stated the each community was different and no one zoning ordinance could be used for all or even some smaller communities.

Peter concluded at 7:55pm. We greatly appreciated his animated and powerful presentation of a subject near and dear to all of us. The ability to survey, quantify and present as feedback to communities this information is a great tool for managing the preservation of dark skies.

On the Schedule

(Items Subject to Change)

PROGRAMS

September: Dr. Neil Comins, Astronomy Misconceptions
?Dave, *Just Six Numbers*
?Alan, Australian Odyssey
?Doug, Night Sky Supernova Toolkit

STAR PARTIES

July 26(rs): Sunfest, Wade and Dana’s, 1 pm
August 1(co) or 2(co): Bangor Land Trust
August 23: Maine State Star Party, Cobscook Bay State Park, Edmunds, Maine
September 12(co) or 13(co): Garland Days

First date is primary, second is rain date; ? Tentative; (rs) rain or shine; (co) clear only

The Business portion of the meeting was presided over by Wade. Old business started with the Secretary's report, the minutes of May's meeting, being accepted as printed. The Treasurer's report was given and accepted. The Treasurer confirmed that the Astronomical League had not cashed the check sent to them. It was also noted that our Club's Bank, TD Bank North was changing its name to Commercial Bank North.

For new business there was discussion of future schedule for speakers. Dale will be presenting a talk about a recent article about killer meteorites for the July meeting. There were no firm speakers after July with both Alan and Dave having to postpone their topics. Alan presented a publication he recently subscribed to from the UK called, "Practical Astronomer". A beautiful magazine, but the subscription is expensive.

Discussion then turned to possibly combining the Sunfest party and a Star party at Wade's home on the 26th of July, tentatively. There was a reminder about the Star Party at Edmunds on the 23rd of August sponsored by the Downeast Astronomical Association. Carolyn graciously invited us all to their place for a Christmas Party, time to be determined.

The club welcomed back Howard and Lucile to Maine. Shirley presented to us a painted picture commissioned by her son for her for Mother's Day. It combined themes that are closest to her heart, lighthouses and astronomy. Wade, Dave, Scott and Carolyn all recounted their sightings of the International Space Station.

The meeting was adjourned at 8:40pm.

Dave

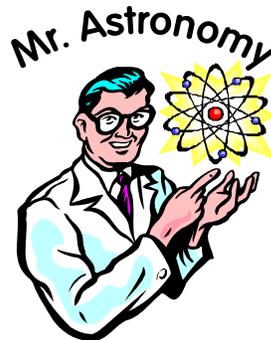
E-mail Excerpts

Club notes sent by e-mail since the last meeting
Simply for the record and for those for whom we have no e-mail addresses

ISS Marginally Resolved

Hi folks! Well, wonder of wonders, at 10:00pm last night I got to see the International Space Station zoom by. If anyone wants to know, I used my 80x20 binos on it. About the only detail I would note was that instead of seeing a circle of light, it did appear squarish. No smiling astronauts waving down were able to be seen by me. For the next go-round, I am planning on using my 5" Mak w/ 17mm eyepiece. I may be able to see detail then. Wade

In the Beginning There Was Hydrogen



Classic 9/01

And there was Helium too. These two elements are all it takes to make a star and stars are all it takes to make more elements. Since the dawn of the nuclear age we have known when atoms of some light elements are smashed together hard enough nuclear fusion occurs and heavier elements are created. This works well for elements up to the weight of iron, but where and how do heavier elements form? Some certainly are created in supernovae which end the lives of the more massive stars. According to Sophie Van Eck of the Université Libre de Bruxelles, Belgium, in the August 23 issue of the journal Nature, heavy elements are also formed in a slower way.

This slow, or s, process is thought to happen before a star like our sun loses its outer envelope and becomes a planetary nebula. This time is known as the Asymptotic Giant Branch or AGB phase. During this phase in the star's life, heavy elements come to the surface and are blown off by stellar winds during the AGB phase and the final "superwind" phase. The exact way this process works is not entirely known but computer models predict the process, and it is known the process happens. When observing three metal-poor stars, which are not old enough to have entered the AGB phase, the researchers found heavy metals in their atmospheres and they determined the heavy metals in these stars had originated in an AGB companion sometime in the past.

Mr. Astronomy

We Still Have a Discount

Hello Everyone, I contacted the people at HighPoint Scientific to verify if our group still has the use of the Advantage Card for discounts on products sold through them. According to their customer service department the Advantage Card issued to us and its benefits never expire. If anyone is interested in purchasing through HighPoint Scientific using the clubs Advan-

tage Card ID or want more information please contact me. Thanks, David

Pluto Perturbations

Hi gang! Well you just never know what convolutions lurk in the minds of astronomers, but I awoke today to find out that the confusion over Pluto's designation is far from over. Not a reversal, mind you, but a wrinkle you can drive a semi through. It seems that a lesser known decision (read forgotten altogether) from that fateful meeting in Europe committed the IAU to a future creation of a new sub-class of objects based on Pluto! So we now have (drum roll please) PLUTOIDS. Here are key information sources to help you, and me, try to understand the implications. Mike Brown of KBO discoveries fame has a blog entry for the subject: <http://www.mikebrownsplanets.com/2008/06/plutoid-fever.html> Reuters broke the news: <http://www.reuters.com/article/oddlyEnoughNews/idUSHER25750620080612?feedType=RSS&feedName=oddlyEnoughNews&rpc=69> And the official release from the International Astronomical Union:

http://www.iau.org/public_press/news/release/iau0804/

This is a new designation scheme that may take more than one PVSG meeting to explain! Alan

A Few Ideas

Are you getting ready for the International Year of Astronomy 2009 (IYA2009)? At the American Astronomical Society/ Astronomical Society of the Pacific (AAS/ASP) conference in St. Louis two weeks ago, a preview of many of the activities and programs to support amateur astronomers were unveiled. Here are some sites are sites to bookmark and watch as more information is released about this international celebration: The USA IYA website: <http://astronomy2009.us/> ASP IYA website: <http://www.astrosociety.org/iya/index.html> Marni Berendsen, Kenneth Frank and Vivian White, Night Sky Network Administrators, Astronomical Society of the Pacific, (415) 337-1100 Night Sky Network: <http://nightsky.jpl.nasa.gov/>

