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Amateur
 astronomers
 just get better
 looking . . .



Newsletter of the Pomona Valley Amateur Astronomers

Volume 27 Number 5

nightwatch

May 2007

President's Address

Every year around this time I try to convince you (my fellow club members) to join me up at White Mountain and every year (so far) I have, at best modest success. But, I am nothing if not persistent, so here I go again.

Like Memorial Day weekend at RTMC, an observing session in the White Mountains has become an essential part of my yearly activities. Since my first trip there in July 2000 I have tried to make at least one visit each summer. When it is clear this is a terrific observing site! The night sky suffers from very little light pollution and the faint fuzzies that I like to look at really show up beautifully.

Located east of Bishop, White Mountain is one of my two favorite observing sites. (The other is Mesquite Spring in Death Valley.) On White Mountain, Grandview Campground is the place to go. On July 14th our PVAA star party will be at Grandview. If you have the time (and can afford the gas) I believe that you should give Grandview a try.

As I said earlier, my first experience observing at Grandview was in the year 2000. I was there in July and August. During each month I stayed four nights. Half of the nights it was cloudy (or raining), two of the nights were good, and two of the nights were great. A pair of objects stand out most in my memory from the two "great" nights during those visits. They are the Veil Nebula, which is a part of the Cygnus Loop (NGC 6992-95) and the galaxy cluster Abell 2151 in Hercules. The Veil was exquisite! I could see every section

of the Cygnus Loop that is charted in *Uranometria*. They were easy to see and fine details abounded. As for Abell 2151, I could see at least a dozen galaxies simultaneously through a 16 mm wide-field eyepiece. (This eyepiece yields a half-degree field-of-view and the brightest galaxies in the cluster are 13th magnitude.)

There is plenty to do besides observing the sky in the area around Grandview. During the daylight hours, I have as much fun as I do at night. As a few examples of things to do, I have visited Law's Railroad Museum,

Star Party Sites

- (MBC) Mecca Beach Campground
- (CS) Cottonwood Springs campground, Joshua Tree Natl. Pk
- (CC) Cow Canyon Saddle, near Mount Baldy Village
- (MS) Mesquite Springs campground, Death Valley National Pk
- (CWP) Claremont Wilderness Park parking lot
- (KD) Kelso Dunes
- (WM) White Mountains (Grandview)
- (CGT) Calico Ghost Town Campground
- (LNDRS) Riverside Astronomical Soc. Landers site

PVAA Events Calendar

Month	Star	Star	General	BoardMe
June	16(CS)		6/1	6.21
July	14(WM)	23	6/29	7/19
August	11(CS)	19	8/31	8/23
September				

June 1st Speaker Jane Houston Jones

"Mars and the Moon are people-friendly because you can see them both without any optical aid," says Jane Houston Jones, an amateur astronomer and outreach specialist at JPL. Jones works on Saturn-related topics for her official day job, but at night, she encourages people to look up and marvel at the whole universe.

Jones vividly remembers the excitement and shock of seeing her first meteor shower while on vacation in New Mexico when she was 10 years old. Despite her awe, Jones came home from vacation and went back to reading and writing and hiking and "doing kid-things" in the hustle and bustle of American life. She later became a mild-mannered vice-president of a bank, working 12 hours a day, but kept looking up at the sky after work.

"In my thirties, I finally realized there was more to life than a 9-to-5 job," explains Jones. She decided to take a telescope-making class as an inexpensive way to get closer to the planetary neighbors she enjoyed seeing after the daily grind. "My first telescope was made out of a huge cardboard tube, and included a cereal box, a drainpipe, cedar roofing shingles, an old record, a sheet of plywood, a mirror I ground myself, an eye piece, and some nails and screws."

The telescope grew to be six feet tall when all was said and done. The behemoth wouldn't fit in her car, and she had to borrow her parent's station wagon to haul it around. Mom and dad now have a telescope of their own.

Looking through telescopes from her own backyard, Jones still loves spotting cracks, faults, and volcanic domes on the Moon; rings of ice around Saturn; and enormous volcanoes and canyons on Mars. Even without a telescope, she enjoys looking out into our solar system and watching how the stars, Moon, and planets move night after night with respect to the rotation of the Earth.

Jane served as president of the Astronomical Association of Northern California for five years

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which is kind of a reconstructed rail depot and ghost town north of Bishop. (I've also visited some of the area's other ghost towns.) I have driven through Wyman Canyon, visiting prospectors' shacks along the way. I have walked to the top of White Mountain, 14,246 feet. (White Mountain Peak is the third highest mountain peak in California.) I've visited the Owens Valley Radio Observatory. I have seen Deep Springs College, a truly unique institution. The White Mountains are home to the Bristlecone Pines. I hiked along the forested slopes of the Schulman Grove among the world's oldest trees. Some of these trees are more than 4,000 years old. One, "Methuselah" is nearly 4,800 years old. There is never enough time to see and do everything that I'd like.

White Mountain is about a 260 mile drive, but when the conditions are right, it is the best dark sky site that I have ever observed from. Unfortunately, conditions like those occur on less than half of the summer nights.

PVAA e-mail and hotline

Those interested in getting information which was not received in time for the newsletter, please send your e-mail address to Ron Hoekwater at

astro.ron@juno.com

To get the latest news on star parties, club meetings, special events and astronomy happenings call

909/596-7274 or

visit our website at www.pvaa.us

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As summer is monsoon season on White Mountain, I recommend that you make your plans to spend at least three nights at the site if that is at all possible. I plan to be there for at least a week. By writing about this a month in advance I hope that those who are interested will have enough time to make the necessary arrangements.

Ron Hoekwater

PVAA Loses a Friend

Longtime amateur astronomer and PVAA member John Jacobs passed away in May. Up until the last few years (when health prevented) he was a faithful attendee of our meetings. With various telescopes, he was also a regular at the star parties. Every year at the holiday dinner he would lead us in a Christmas carol. Appropriately, his name was on a microchip which NASA's Stardust spacecraft carried on its trip to Comet Wild 2 in 2004. He will be missed.

New Local Star Party Site

On May 12th PVAA held its first star party at a new site, the Mount Baldy Ranch RV Park. For years we have occasionally had star parties at Cow Canyon Saddle, which is about 1/2 mile from the new site. Club members Jeff Felton and more recently Richard Wismer talked with the owner of the property, Ron Curtis. Mr. Curtis kindly granted permission for PVAA to use site.

So, how does the new site compare to the old (Cow Canyon Saddle) site? Well, the horizon is far from flat, but it is no worse than the old site. Hey, it's in the mountains. What did you expect? The restrooms are a long walk from the observing area, but the old site had no restrooms at all. And the new site has two big pluses over the old site. No cars (with bright headlights) driving by a few times per hour and no drunk teenagers stumbling around the telescopes.

I was told to check in at the park headquarters when I arrived, however the headquarters were already closed. Bob Griffin came in right after me. After a few minutes I found Jim Bridgewater, or rather he found me. Jim arrived before the headquarters closed and he showed us where we were to setup. Soon Joe Hilberg and Frank and Barbara Busutil drove up. Craig Matthews brought

his 12-inch Meade Lightbridge. While we were all setting up our scopes Michael Keenan and a friend whose name I have forgotten pulled in. Laura Jaoui arrived after dark and unfortunately didn't find us right away. Ken Crowder and a friend were setup at the old site (in the turnout) and Laura observed with them until Craig found her.

When we got down to observing we found that the sky is pretty good considering how close to town it is. There is definitely some light pollution, but the sky is dark enough to see the Milky Way. The northern sky is best. The western sky though is pretty washed out. The south is better than one might expect.

Everyone agreed that the Mount Baldy Ranch site is worth revisiting. To get there you turn left just after entering Baldy Village, on the Glendora Ridge Road. About a mile later at the summit, turn into the turnout and drive through the gate. Follow the dirt road. The Mount Baldy Ranch RV Park is less than 1/2 mile on the right. We set up on the hill at the south side of the Park

Our next star party is on June 16th at Cottonwood Springs. During the warmer months the Campground is much less crowded and the temperature is very comfortable at night. This time of year, it is often true that most of the people there are amateur astronomers.

Ron Hoekwater

General Meeting—May

Ron announced that the Club was asked to assist with a Cub Scout Star Party on Tuesday, August 21st in Chino. See our website for details and please come if you can. At star parties we can always use member assistance. Some help by bringing their telescopes or binoculars while others point out the constellations or show the public how to use a star chart. Others share details about the solar system or talk about the history of astronomy or of space exploration. Or you can just come to keep us all company and to see how a star party goes so you can find a niche for yourself at a future event. We'd love to have you join us.

Many in attendance at the meeting would be interested if the Club organized a tour of Edwards Air Force Base. Once my schedule calms down a bit with summer, I'll see what I can arrange. More details will follow as I find out more.

Dave Gardner kept us up to date on NASA and space news as we heard that JPL's Dawn mission will launch this summer with plans to visit asteroids Vesta and Ceres. In mid-2008 the Phoenix Lander is scheduled to touch down on Mars, increasing the number of landers and orbiting spacecraft we have sent to our neighboring planet.

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Elections are coming up soon in August. Please consider taking a turn and helping to govern our group. The time commitment is only 1-2 hours per month and board meetings are held at a local restaurant so you'll even have a chance to eat while we talk. Let a current board member know if you are interested.

Since it is the time of year for the Summer Triangle, Lee's topic was appropriately about the area around one member of this prominent summer sight – the constellation of Cygnus which contains the star Deneb. While all three stars which make up the triangle have a similar apparent brightness – ranging from magnitude 0.03 to 1.3, Deneb comes out the winner of the actual brightness contest at it's light comes to us from 1500 years ago, while Vega and Altair are respectively only 27 and 17 light years distant. Also located in Cygnus is Albireo, the double star system whose blue and gold stars are frequent subjects at our summer star parties. One of the most fun objects in this part of the sky is in the constellation of Sagitta and is called the Coat Hanger, a cluster with an amazing resemblance to the shape of these common objects from our closets at home. It can be seen with only binoculars in a dark sky and I recommend it as a great example of one of those few times when the name of the object really fits what we see in the eyepiece!

Bill Vaskis shared with us an interesting tale of how a relative of his, Peteris Vasks, a well known composer from Latvia, recently had an asteroid named for him. While it was originally named 1990 VP, its full name is now 16513 Vasks – very close on the list to 16260 Sputnik, 16809 Galapagos (for the Islands) and 16155 Buddy (Holly – the Rock 'n Roll singer) which are all very good company! I'm not sure if this object is visible with terrestrial scopes but our Club now has a slightly closer connection to the heavens – thank you for sharing your story, Bill.

Our next announcement came from a voice from the recent past of our Club – former PVAA president Roy Schmidt. Roy shared with us his membership in the Mount Wilson Observatory Association (MWOA). In addition to monthly speakers as we present, MWOA members are also allowed access to the historic 60" telescope at Mt Wilson five times a year. This is a valuable benefit as the usual cost for an amateur group the last time the PVAA visited was around \$60 each and over a dozen people must attend for the Club to break even on our visit. If your pocketbook allows two astronomy club memberships, please consider joining this group. Their lectures are at the Public Library in Altadena and put out a great newsletter. Even if you cannot attend frequently due to the distance you may still find value in joining our sister Club. Their website is www.mwoa.org.

May Speaker

In addition to all the benefits listed above, Roy's contact with MWOA provided us with our main speaker for the evening,

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before accepting a job as Senior Outreach Specialist for the Cassini Program at NASA's Jet Propulsion Laboratory and relocating to Pasadena, CA. She is an avid amateur astronomer and can often be found at a star party helping someone collimate their telescope or surrounded by dry ice, buckets, and kids forming comets in a classroom. Or flying around the world counting meteors as part of the 1998 - 2002 NASA Leonid Multi-instrument aircraft campaign. Or perhaps pouring a pitch lap in a telescope class.

Jane completed many of the Astronomical League observing award programs - the Sunspotter, Messier, Messier Binocular, Southern Sky binocular, Caldwell, Herschel 400 and Galaxy Cluster programs. When not observing, giving talks, or making comets, Jane publishes articles in amateur astronomy club newsletters and in Sky and Telescope and Amateur Astronomy magazines. Her astronomical sketches have been published in Astronomy Magazine.

Jane wishes to thank the Sidewalk Astronomers and John Dobson for introducing her to the world of amateur astronomy. Amateur astronomy is a universal community of stars, young and old, all shining brilliantly, sharing their energy and history with all who care to look up.

Ms Jones will speak to us about the Cassini Mission.

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Don Nicholson. Don was born and grew up in Pasadena, earning his BS at Pomona College and an MS at Caltech. His father was an astronomer at the Mount Wilson Observatory and Don spent much of his youth at the Observatory on Mount Wilson and at the Observatory's offices in Pasadena. After his retirement, he returned to the mountain as a volunteer.

Don shared some great pictures of the many treks of equipment up the mountain – usually by burro and mule and all on dirt roads, the only way to the top in those days unless you were a bird! The 60" telescope went into operation in 1908 and was the largest telescope in the world. Ever looking forward, Hale received the mirror blank for the 100" scope on the same day is the 60" went into service. This second scope eclipsed its 60" neighbor when it began operations in 1917 and took the largest telescope title – holding it until 1948. Cars began driving up the mountain in 1907 and the traffic problems Los Angeles is known for today were not far behind. Mt Wilson was such a popular destination on weekends that the narrow (Cont. on page 5)

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road alternated between 2 hours where cars only traveled uphill, and two hours where only downhill driving was allowed. During the week traffic slowed so two way travel was permitted but care had to be taken at the many twists and turns in the road.

Other types of observing is done at Mt Wilson as well, from the solar Snow Telescope and 60' and 150' towers to the CHARA array, a six-telescope optical/infrared interferometer which was put into service in 2000. Adaptive optics have also made an appearance, improving the views from some of the older instruments.

From the first detection of the sun's magnetic field, to Hubble's discovery that the universe was expanding and the discovery of the complete 22 year solar cycle – as the polarity reverses with every 11-year cycle – Mt Wilson has been the location where many revolutionary discoveries were made. One experiment many of us have heard of from other lecturers was the speed of light experiment, done in the mid-1920s. While one end of the experiment was at nearby Lookout Mountain near Mt Baldy, the other end – and most of the scientific equipment – was located on Mt Wilson. I think Don would rather have spent some time at our end of the experiment as the very rapidly rotating mirrors spinning atop Mt Wilson apparently made a huge ruckus while in operation and gathering data.

It is wonderful to have such a storied facility located so near us and where scientific discoveries continue to this day. Our many thanks to Don Nicholson for sharing his knowledge with us.

Claire Stover



International Heliophysical Year

The **International Heliophysical Year** is a UN-sponsored but scientifically driven international program of scientific collaboration to understand external drivers of planetary environments and universal processes in solar-terrestrial-planetary-heliospheric physics. The IHY will focus on advancements in all aspects of the heliosphere and its interaction with the interstellar medium. This effort will culminate in the "International Heliophysical Year" (IHY) in 2007-2008.

The term "*Heliophysical*" was coined to refer specifically to this activity of studying the interconnectedness of the entire solar-heliospheric-planetary system. It is a broadening of the concept "geophysical," extending the connections from the Earth to the Sun & interplanetary space. On the 50th anniversary of the International Geophysical Year, the 2007 IHY activities will build on the success of IGY 1957 by continuing its legacy of system-sides studies of the extended heliophysical domain.

The IHY 2007 has been planned to coincide with the fiftieth anniversary of the International Geophysical Year (IGY) in 1957-1958, one of the most successful international science programs of all time. The IGY was a broad-based and all-encompassing effort to push the frontiers of geophysics and resulted in tremendous progress in space physics, Sun-Earth connections, planetary science and the heliosphere in general.

The tradition of international science years began almost 125 years ago with the first International Polar Year and international scientific studies of global processes at the North Pole in 1882-1883.

The IHY has received substantial support from the United Nations, and various space agencies around the world.

The IHY has three primary objectives:

- Advancing our Understanding of the Heliophysical Processes that Govern the Sun, Earth and Heliosphere
- Continuing the tradition of international research and advancing the legacy on the 50th anniversary of the International Geophysical Year
- Demonstrating the Beauty, Relevance and Significance of Space and Earth Science to the World

The IHY team has also identified the following science goals for 2007-2008:

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1. Develop the basic science of heliophysics through cross-disciplinary studies of universal processes
2. Determine the response of terrestrial and planetary magnetospheres and atmospheres to external drivers.
3. Promote research on the Sun-heliosphere system outward to the local interstellar medium - the new frontier.
4. Foster international scientific cooperation in the study of heliophysical phenomena now and in the future
5. Communicate unique IHY results to the scientific community and the general public

IHY aims to raise public awareness of the importance of the Sun-Earth connection. In particular, on 10 June 2007, 27 scientific establishments (24 across Europe, two in India and one in Mexico) will open their doors to the public in order to inform people about the importance of the Sun's influence on Earth.

"When people hear the word astronomy, I believe only five percent think of the Sun-Earth connection. Through IHY, I would like to raise that to at least ten percent," says Carine Briand, Observatoire de Paris à Meudon, and the co-chair of the European coordinating committee for IHY.

Internet Sites for further information:

IHY Home Page: <http://ihy2007.org>

eGY Home Page: <http://www.egy.org>

IPY Home Page: <http://www.ipy.org>

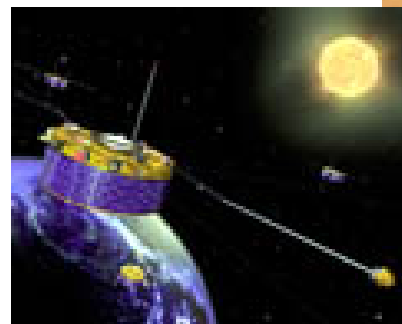
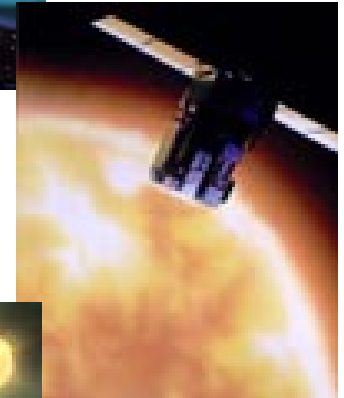
IYPE Home Page: <http://www.esfs.org>

IHY Japan Home Page: <http://www2.nict.go.jp/y/y223/sept/IHY/IHY-e.html>



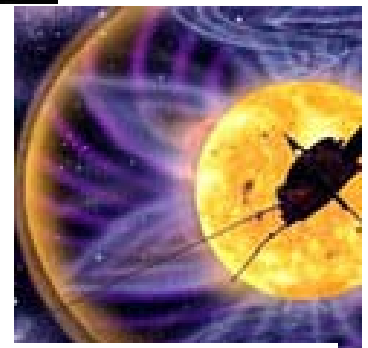
Coronal Mass ejections heading towards Earth

SOHO Satellite



Cluster Satellites Studying the Sun

Artist's rendering of ESA-NASA Ulysses Spacecraft



Flagstaff AZ (SPX) Feb 23, 2007

For the first time, astronomers have collected and analyzed a long-term set of activity and brightness measurements of a "solar twin." A team from Lowell Observatory and Tennessee State University recently announced that the close solar analog, 18 Scorpii, exhibits brightness changes over the course of its activity cycle that are nearly identical to the Sun's.