

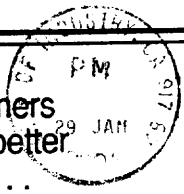
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nightwatch

Newsletter of the Pomona Valley Amateur Astronomers

Amateur
 astronomers
 just get better
 looking ...



Volume 24 Number 2

nightwatch

February 2004

President's Message

While writing articles for this month's newsletter, I was reminded once again what a boon (and sometimes bane) computers can be. After spending about 3 hours online, looking for data on the redshift and/or distance to a particular galaxy cluster I finally had to concede defeat. Four years ago I was totally computer illiterate. Now I am just backward. But still, I have gone from not knowing what I would use a computer for, to not knowing how I would get by without one.

Computers place an unimaginably vast quantity of knowledge within reach, but it is not always the exact information that we need or in a form that we can readily use. I found a site that listed the redshifts for hundreds and hundreds of galaxies, but the galaxies were cataloged in a format with which I am unfamiliar. I had no way of knowing which were the galaxies I sought (or if they were even listed). There was also a paper on the extinction of light from galaxies, but it would have taken hours to read, with no guarantee that it would have provided a means of obtaining the distance to the galaxy cluster in question. But even though there are times that I search the Internet in vain, there are many more times when I am able to find information on the Internet which I couldn't have easily obtained (or couldn't have obtained at all) in any other way.

Besides access to information the other very important use (for me) of computers is communication, which brings me to the point. We have compiled a club e-mail address list for members. It allows members a

convenient way of contacting one another to set up observing sessions or whatever else they may wish to inform others about. Right now we have about 30 addresses on that list. Others wanting to be added to list should see Claire Stover at the next board meeting. Or you can send your e-address to me at: astro.ron@juno.com. I will forward it along. When your address is received you will be sent a list of the other member e-addresses.

Happy star gazing!

Ron Hoekwater

January General Meeting

We are now collecting for our next trip to Mt. Wilson on Saturday, March 13th. Member price is \$60, non-member \$75. The first 20 people to pay will have reserved spots for the trip.

Lee Collins covered the interesting area of the sky

PVAA Events Calendar

Month	Star Party	General Meeting	Board Meeting
February	21	6	26
March	20	5	25
April	17	2	29
May	22	4	27

around the constellation of Orion. While Orion is one of the most prominent and recognizable star patterns – even under our local urban skies - surrounding skies contain constellations mostly indiscernable except under dark skies; such little known ones as Eridanus the river, Fornax the furnace, and Pictor the painter's easel. Orion's foe, Taurus the bull and his companion Sirius the dog are the other prominent characters in the area. Another frequently observed item is the nearby Pleiades, a beautiful star nursery.

Member Jeff Felton then spoke to us on binoculars. His presentation consisted of a dazzling array of visual aids including both intact and disassembled binoculars, so we could see the different types of prisms. The purpose of all the prism configurations is to fold and shorten the optical path as well as to present to the eyepiece an image that is both right side up and correctly oriented right to left. While those of us into astronomical observing aren't too concerned with such orientation issues, binoculars are most often used for terrestrial viewing. Hunters need to know which way the deer is really running to get in a good shot and bird watchers want to know which birds hang under the branches and which perch atop them.

Featured Speaker

Our speakers for the evening were Mike Salto and Tim Gardner from Alpen Outdoor Corporation – a binocular distributor company based in Rancho Cucamonga. Mike showed slides of the three most common prism styles; the roof prism, porro 1, and porro 2. While some prefer the straight lines of the instrument that contains the roof prism, they tend to be more expensive as the prisms must be coated to correct for a light phase shift caused by this prism configuration. Porro 1 and 2 binoculars were developed in the 1850s by Ignacio Porro and are the ones most commonly produced since World War II so are the style we are most used to seeing today. A last unusual binocular type is called the tuna can, for its similarity to the shape of these containers.

Mike and Tim reviewed some of the mathematics of binoculars. The first number given is the magnification while the second number is the diameter of the light collecting objective lens. Therefore, 7

x 35 binoculars magnify the image 7 times and have a 35mm objective lens. Another bit of math – dividing the lens size by the magnification (35/7) gives you the exit pupil of 5mm. The pupils in a young person's eyes expand quickly to a larger diameter and may use up to 7mm of exit pupil. They will benefit from binoculars with this larger exit pupil. Older eyes only reach a size of 4-5mm so the larger exit pupil may not be needed. For comparison, this equation is less important for daytime viewing as the pupil contracts to only 1-2mm in bright light. Even hunters of deer and birds benefit during the low light periods of dawn and dusk, though, as their pupils expand. A brighter image is seen under these low light conditions with a larger exit pupil. Too small an exit pupil can make your binoculars harder to hold steady as well and less forgiving to slight movements.

Another factor to consider when choosing a pair of binoculars is to find one with long eye relief for

PVAA 24 HR. Hotline.

Get the latest news on the star party, club meetings, special events and astronomy happenings. call **909/596-7274**

Visit our website at

<http://pages.pomona.edu/~aka04747/pvaa/>

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those who wear eyeglasses and don't want to take them off to observe. A long eye relief with adjustable eye cups allows you to twist or fold down to view with glasses or to leave the eye cups extended for a viewer without eyewear. This flexibility and longer distance to the point where the full image size can be viewed lets both glasses and non-glasses wearers get their eyes to the correct spot for ideal viewing.

Thank you to Alpen for their informative binocular review and their product line samples – and to Jeff for the real life examples from his binocular collection. Good luck putting them all back together again!

Claire Stover

Touching the Universe. Blind are helped to touch the stars.

Last year during an imaging session at Cottonwood Springs I was having a hard time seeing M57. It was then that I began to wonder what the universe must seem like to blind individuals. Most of what amateur astronomers depend on is based on something that is seen and not touched, light. When I returned home I decided to research this.

I discovered that until recently most of what had been done in the area of bringing the notion of the universe to blind persons was in the form of books written in Braille, without images. This would be as boring as taking a beautiful book such as Night Watch and taking out all of the images.

Astronomer Noreen Grice drove this point home in 1984. It started with a chance encounter during the summer before her senior year at Boston University while working as an intern at the Museum of Science. Students from the nearby Perkins School for the Blind were visiting, and Grice had helped them to their seats at the planetarium. After the show, she asked what they thought of it.

"That stunk!" said one.

Like most planetarium shows, it had been a visual journey through the night sky. There had been no explanation that might have helped those who couldn't see it for themselves to know what it was all about. Grice thought, Why does it have to stink? This led Grice to two author two publications that made great headway for blind individuals experiencing the universe. Touch the Stars and Touch the Universe, a NASA Braille Book of Astronomy. Both have translated astro images into Braille. The NASA book using Hubble images.

This knowledge led to my current undertaking. My thoughts were to have a star party for blind and partially sighted individuals at Cottonwood Springs. I contacted the Los Angeles Braille institute, Don Weitzman and asked if there would be any interest? Don an amateur astronomer himself said absolutely Yes!

On April 29th PVAA Together with the Braille institute and Don Weitzman are having a Star Party for 16 blind and partially sighted individuals. Their ages range from high school to age 80. The event will include an Outdoor Sunset Bar B Que. The evening will be capped off with a star party. The partially sighted will be looking at celestial objects through telescopes and "live" on TV Monitors. The totally blind will be "Touching" the Universe with the aid of the books Touch The Stars and Touch The Universe.

The Braille institute is providing bus transportation for the participants and helping in offset some of the other costs. I plan to secure donations from service organizations for the balance. I want this to be a free event for PVAA and the participants. The San Gabriel Valley Tribune and the Joshua Tree National Park Newsletter will cover the event.

We need some help to make this a memorable event. The biggest challenge is that the Braille Participants can only go to Joshua Tree during midweek. If any of you would like to help out on the support team, be telescope leaders or can bring telescopes. on Thursday April 29th Please contact me. The Event will be at Cottonwood Springs Campground Loop B. It will be from 3:30 – 10:30 P.M.

I will have a brief presentation at our March General Meeting and hand out a complete agenda. You may contact me by calling me at 909-464-3090 or by e mail fbusutil2002@yahoo.com

Thanks

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909-620-8671
909-464-3090

February Star Parties!

In February we will be having two (count them two) star parties. Our regular club star party will be on February 21st at Cottonwood Springs Campground in Joshua Tree National Park. To get there take the 10 Freeway east about 20 miles past Indio. Exit the freeway where the sign says Joshua Tree National Park/ Mecca. Turn left and go north about 8 miles to the Visitor Center. Turn right at the Visitor Center, the camp-

ground will be on the left side of the road.

An extra (**bonus**) star party will be held at Mesquite Springs in Death Valley on President's Day weekend, February 14-16. Mesquite Springs can be reached in several ways. One of them is to take the 15 Freeway north, to Hwy 395 north, to Torona Road north, to Hwy 178 (Torona Road) north, to Panamint Valley Road north, to Hwy 190 east. In Death Valley take North Hwy north towards Scotty's Castle. Mesquite Springs Campground is on the left side of the road just before you reach the park fee gate.

Ron Hoekwater

February's Speaker: Michael John Keenan

At the February 6th meeting of Pomona Valley Amateur Astronomers Michael John Keenan will be speaking on the Michelson "Speed of Light Experiments." Between 1879 and his death in 1931, Albert Abraham Michelson performed a series of experiments intended to detect the presence of the aether and measure the speed of light. (His measurements of the speed of light were remarkably accurate, but his efforts to detect the aether were spectacularly unsuccessful.) Some of the most famous of these experiments were conducted in the local mountains (Mount Wilson and Mount Baldy). Michelson received the Nobel Prize in 1907 for his work, the first American to receive the Prize in science.

Mr. Keenan has a strong interest in "the relation between the arts and the sciences." His interest in astronomy has lead him to be a regular attendee to the Pomona College 1st Tuesday astronomy lectures for the last twenty years. He has been working to complete the national and state "historical site" nominating process for Albert Abraham Michelson's re-measurement of the speed of light between Lookout Mountain and Mount Wilson. He is also working on his Geographical Information Systems certification in ArcView GIS 8.2.

Ron Hoekwater

Pomona Planetarium Show

Feb 3rd, Bryan Penprase will give a talk on **The Exploration of Mars**. He will give an update on the JPL Mars landers "Spirit" and "Opportunity", including 3D images of the surface of Mars and an all-sky Mars panoramas on the planetarium dome. **8 p.m., Millikan Planetarium, 610 College Ave., Claremont.** For more informatin, call (909) 621-8724

March Mount Wilson 60-inch Telescope Trip

On Saturday, March 13, 2004 PVAA will be returning to Mount Wilson to observe with the 60-inch telescope. Seeing Jupiter, Saturn, and Mars through the 60-inch telescope are among my most thrilling astronomical experiences. March 13th is 10 days after the opposition of Jupiter. Saturn will be visible as well, and the moon will be visible in the morning. I have never seen the moon through the 60-inch, but I have been told that it is a treat. If you missed the Mars Mount Wilson trip in September then this is your chance to see planets like you have never seen them (through an eyepiece) before.

The conditions on Mt. Wilson are generally not conducive to the observation of large or low surface brightness objects. The field of view at the 3-mirror-cassegrain focus is too narrow and the sky on Mt. Wilson is too bright. The 60-inch is, however, a superb instrument for the observation of small high surface brightness planetary nebulae, globular clusters, and some unusually colorful stars, such as Albireo, Campbell's star, and R Canes Venatici.

No one can guarantee that the seeing will be good on any particular night. But the seeing at Mount Wilson has a greater likelihood of being good than at most other places. And sometimes it is fabulous! If clouds or wind prevent us being able to observe on our reserved date there will be no refund. However we will be given another night on the scope.

If you would like to go on this Mount Wilson trip please send a check made out to PVAA for \$60.00 (for club members) or \$75.00 for non-members to the club PO Box. Or you can pay at the general meeting. I hope many of you will be able to advantage of this opportunity.

Ron Hoekwater