SIDEREAL TIMES

The Official Publication of the
Amateur Astronomers Association of Princeton

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Treasurer: Pete Oppenheim
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Assistant Director: Ralph Marantino
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Volume 31 | January 2002 | Number 1

The Light We Can Never See

In thinking about what to write for this issue of Sidereal Times I spent some time browsing through my previous articles. I discovered some common themes such as the fact that I like to wax philosophical on you and to push hard to get us all out there observing and soaking in as much starlight as we possibly can. One of my favorite articles was the recent one about a great observing experience at Jenny Jump but I now have to hand Bill Murray the credit for reporting on the even more extraordinary evening he experienced while waiting for the Leonids last month. In the midst of my browsing I got side tracked and picked up the January issue of S&T to discover that Alan Bodnar echoes a number of my favorite themes. I won't quote his entire article here but I do recommend it. Still, his key points are worth noting:

Beauty refreshes and heals

Patience is our best response to a universe that is beyond our control

Do it now, before the weather changes for the worse!

When the sky is partly cloudy, look for the clear spots.

When the sky is completely cloudy, do something else.

Imagination and knowledge must work together.

For me a lot of that hit home and gave me some confidence that not all the words I've flung your way were out of line. The last item, though made me understand a lot more about why astronomy is such a love to me. There's something intriguing about investigating something you may never understand or pondering the state of the universe in a time you can never visit. At this time of the year I always get a lot of questions (from believers and non-believers alike) about the famous "Star of Bethlehem" and whether there is any scientific evidence supporting its existence.

Happily anyone with one of several planetarium programs for his or her computer can attempt some conjunction searches and try to figure this out (yes, you can even still do this in The Sky Level V! but there are better choices.) There are several provocative

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Simpson Observatory (609) 737-2575

Observations

Cold Weather Observing Revised

Winter is upon us, the warm; muggy-buggy nights of summer are gone. The atmosphere has less haze which makes the sky much clearer to sight constellations and star-hop. You say it's too cold to venture out with your telescope. You can observe as often in the winter as in the summer if you are dressed right and have the right equipment. Who wants to miss the Orion Nebula, the Crab Nebula and the many open clusters the winter sky has to offer.

I can handle the cold, but it's the wind that makes my toes and finger start to numb. The wind makes it hard to stand still looking into a eyepiece for any length of time. My only suggestion is try to refrain from observing on windy nights because body heat is lost quickly, and it makes my telescope shake on it's mounts where I can't use high magnification. This is the case at Jenny Jump, which resides on top of a mountain.

The calm, clear, some-what cold nights can be enjoyed comfortably by wearing several layers of clothing. I start with insulated underwear, then a flannel shirt and jeans. I also wear an insulated vest, scarf, and a heavy coat. My gloves are actually mittens that can be folded back to expose my fingers to handle delicate eyepieces, focus knobs or my sketching pencil. Most of the time my hands are exposed and are kept warm by sticking my hands in my pockets where each has a solid fuel heater. These heaters can be purchased from K-Mart or Wal-Mart for about four dollars each. I light the solid fuel sticks at each end for maximum heat and tend to stay warm for about three hours.

On my feet I find that a thin pair of cotton socks followed by a pair of wool socks works best. Your feet may tend to sweat with just the wool socks. The cotton is there to absorb the perspiration that and keep your feet from getting cold just from being moist. My boots have 1000 grams of Thinsulate, not so bulky that I can't drive with them on. Lastly I wear a hat; most of your body heat is lost through your head (makes you wonder if there's anything up there to stop it). I prefer to wear an insulated baseball cap that sports earflaps. I also have an Air Force fur hat where the earflaps can be snapped together with a chinstrap. My coat also has a detachable hood that

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answers to this search but one of my favorite is an incredibly close conjunction of Jupiter and Venus that occured in 2 BC. This would have been an impressive sight! If you look a little more closely you discover that Mars and Mercury were up in the sky that night too and not very far away. Of course 2 BC is a bit off by the history books...but then that's just what let's you mind wander from the knowledge to the imagination.

Recently in Nature Magazine (14 December 2001) John Whitfield wrote that we now know that "Objects will be receding from view so quickly that their new light will never reach us." He quotes cosmologist Abraham Loeb of the Harvard-Smithsonian Center for Astrophysics, "There's a finite amount of information that we can gather about the Universe. We'll never know how it evolves beyond a certain stage." Imagine, the future will be even more elusive than the historical past or even the birth of the universe! Or, actually, even in the distant future we will never see the origins of our Universe.

So the charge is still upon us...get out there and observe now for in the distant future as Loeb says, "Any beings still existing will be reliant on us to tell them about most of the cosmos. We'd better focus our attention on the distant Universe for the next 50 billion years." You now have the perfect excuse to bolt outside after dinner and get behind your telescope!

Happy New Year!
Kirk

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I can use when the temperatures really go down.

Take your observing equipment outside before you don the articles mentioned above and let your optical tube stabilize for about fifteen minutes. I sometimes observe with bare fingers and find that if I insulate the bare metal items on my telescope my fingers won't numb so fast. I do this by wrapping rubber bands around the top metal portion of the eyepiece. Another item is my observing chair. When I obtained my Tele-Vue Air Chair Ralph had already gotten his. His wife, Betty, made a nice cloth cushion to cover the cold Nogahide cover. I also bought a heat-able pad to fit this chair. This pad can be reheated in a microwave oven and lasts for about three hours, more than enough time for a decent observing session in the winter months.

With the 11-inch primary mirror on my Celestron SCT, I've found that it takes up to an hour for it to reach ambient temperature and the images to become stable. A quicker way is to force dry ambient air into the enclosed tube. Looking at the Astromart, I found a company, Lymax (www.lymax.com) that sells a product called the "SCT Cooler." The principal is that a tube fits into the visual back and through the baffle tube with a fan and filter on the outside. It blows filtered outside air and directs it on the primary mirror. I found the price a bit steep at $130. A trip to Radio Shack and the local hardware store, I found that a similar product could be made for about $20. I bought the fan at Radio Shack for $8 and the balance was spent on PVC tubing and adapters. Air Conditioner filter material at the exit end of the fan cleans the air as it enters my scope tube.

Ron Mittelstaedt

Minutes of the

Regular Meeting of the AAAP

Dec. 11, 2001

Director Kirk Alexander called the meeting to order at 8:02 PM.

Program Chairman Mark Lopez introduced the evening's speaker, Dr. Carlton Pryor of Rutgers University. The topic of Dr. Pryor's talk was "Globular Clusters & Adaptive Optics". The talk was well received.

In the business meeting Kirk noted that the AAAP star party held on Nov. 16th was a big success and suggested that we hold other similar events in the future. It was suggested that we might plan field trips as well. (The Naval Observatory in Washington was mentioned as a possible trip.) The board is willing to entertain suggestions from members about future trips and events.

Treasurer Pete Oppenheim was not present at the meeting but e-mailed his report. The treasury balance is $8927.89. The insurance was renewed ($1425). We currently have 148 members. The adjustable height observing chair has arrived and Pete will drop it off at the observatory as soon as he can.

Assistant Director Ralph Marantino reported that there was no further news on when the tailpiece for the 6" refractor would be finished.

Observatory Chairman Rex Parker reported that the Dec. 1st work party had been successful. Eleven people showed up. Tasks accomplished included clearing the grounds around the observatory of weeds and stumps and repainting the external woodwork. Rex also stated that he examined the roof rails and support piers during the work party and that they might need some repair work in the near future. The support piers are showing signs of external crumbling and the welded pins that hold the rails in place are beginning to rust through. Although new hardware to fix the alarm has been purchased the alarm is still not working. John Church has agreed to go the observatory and look at the alarm.

Gene Ramsey reported that he had talked to a friend of his who is a contractor about how much it would cost to improve the grounds around the observatory. The contractor stated that he could bring in 6 or 7 truckloads of clean fill dirt to level the area west of the observatory, tamp the fill down so that the ground is level and cover it with straw so that it will be ready for seeding in the spring. The total cost would be $700.

Discussion was held about this plan. Ralph Marantino made a motion that the club approve the expenditure of $700 to improve the observatory grounds. Bill Murray seconded this motion. The motion was approved pending approval of the park system management. Any members who have comments of concerns about this plan should e-mail them to the board.

Sidereal Times Editor Vic Belanger reported that the mailing of the Dec. issue of Sidereal Times was late due to delays at the Trenton post office. Vic stated that he believed that future delays could be avoided because he now has the capability to e-mail the Times as a PDF file to ST Publisher Michele Novatski, thus avoiding mail delays. The deadline for submissions for the Jan. issue of the Times is Dec. 28th. However, since he is going to Florida in a week Vic requested that submissions be made as soon as possible. Vic also reported that club members interested in warm boots for

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winter observing should search the web for the site of the Kittery Trading Post in Maine, which has a selection of such boots.

Webmaster John Miller has added a monthly astronomical events section to the club website.

There will be a board meeting at Kirk's office 7 PM on Jan. 24th.

Secretary Bill Murray reported that he had purchased a green laser pointer to use as a star finder and invited members to test it out outside Peyton Hall after the meeting.

The meeting was adjourned at 10:05 PM.

Bill Murray, Secretary

UACNJ (Jenny Jump) Observatory Chair.

On December 1st I attended the meeting of The United Astronomy Club's of New Jersey, where I serve as Treasurer. I had time to inspect the observatory. The exterior walls will need to be painted. I will have to find a paint that will last longer on the T-11 siding.

The 12.5" scope is in great shape. The mirror looks good and drive is working properly. For those who don't have the money and expertise to do CCD imaging, the Simpson 12.5" Newtonian at Jenny Jump is a great scope for taking the ol' emulsion type astrophotography. Though the distance is about one hour and fifteen minutes from the Princeton area, the skies are much darker than Washington Crossing but it has the house to warm-up in, have coffee or sleep over. The use of the UACNJ facilities is included in the yearly twenty-dollar membership dues.

The AAAP Jenny Jump Observatory is not for public use, only AAAP qualified members are allowed to use this facility for insurance reasons. If not already qualified, a short qualification training session is needed. Astrophotography training is also available in the 12.5" Newtonian if desired. It is also equipped with a separate 80mm refractor for a guide scope and an ST-4 auto guider. This is a service that isn't even provided at the Washington Crossing Observatory. In the future I will also try to obtain the accessories needed to perform astrophotography on the 14 inch. It shouldn't be any different than the items I use on my C-11.

Two neighboring observatories are now completed. Next-door is the Amateur Astronomers, Inc. facility, which houses a C-14. I'll have to see what dark skies do for their instrument. Next to them is the Morris Museum's observatory which houses a short tube 16 inch.

Ron Mittelstaedt

Best Wishes
For a Very Happy
And Prosperous
New Year

From The Program Chairman

I hope that everyone has had a very nice holiday season and like me, you are looking forward to a new year of club meetings and guest speakers. We will start off the new season by having the Director of The Big Bear Solar Observatory and Distinguished Professor of Physics at the New Jersey Institute of Technology, Dr. Philip R. Goode speak to us on "The Sun and Moon From Big Bear Solar Observatory."

The Big Bear Solar Observatory (BBSO) is one of four solar observatories capable of making high-resolution observations of the Sun, which are critical to understanding the dynamics of our magnetically active star. The drive to understand our star arises from both scientific and practical reasons. Data from the BBSO have provided a seismic sounding of the solar interior, which has advanced our knowledge of how the Sun lives its life. In addition, Dr. Goode and his team have also been observing the dark side of the moon, or earthshine, to quantify global warming. *

Dr. Goode's talk should prove to be a very interesting one and a pleasant departure for those members who enjoy studying the nearest star in the heavens. You can double the evening's enjoyment by also attending the pre-meeting dinner. We will be hosting Dr. Goode at The Annex Restaurant, 128 ½ Nassau St., at 6:00 PM on Tuesday, January 8, 2002. This is plenty of time to have a nice meal and some very good conversation with the guest speaker and your fellow club members. Last month, 15 members attended the dinner. Everyone had a great time and I know that we will again this month. If you would like to attend, please email me at or call me at I look forward to seeing you there

Mark Lopez

P.S. The speaker for the February meeting will be Dr. Charles Joseph of Rutgers University. The topic of his talk is Project VIRGO. If you would like to learn more about Project VIRGO, please go to the club's website and check out the Speaker Schedule. Thanks again.

*Taken from correspondence with Dr. Goode

From the Treasurer

Our new adjustable observing chair has arrived. I set it up at WC today and it's ready to go. The chair is the Atinatech Chair and it is adjustable to a variety of heights simply by sliding the seat portion up or down. The chair is also designed to be configured for binocular observing by collapsing the legs to the smallest setting and lowering the seat to the bottom. One word of caution: be sure the hook that holds the two sides of the "A" frame is snapped on before anyone sits down. This may sound strange, but it will make sense when you see the chair. The instructions are on the desk if all else fails. There is an accessory "desk arm" that was included too, but you may find it easier to work without it attached.

Pete Oppenheim

Deadline for the February Issue
January 25, 2002

Amateur Astronomers' Association
of Princeton
Officers and Committee Chairpersons
December 1, 2001

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Mr.	Victor	Belanger	PO Box 96	Princeton Jct	NJ	08550			Editor Com/Ed Chr Past Director	
Dr.	John	Church	11 Princeton Pl.	Princeton Jct	NJ	08550			Historian Past Director	
Mr.	Charlie	Franz	38B Berrien Ave	Princeton Jct	NJ	08550			Pgm Comm	
Mr.	Mark	Jaworsky	57 Featherbed Ln.	Hopewell	NJ	08525			Light Pol.	
Ms.	Louisa	Lockette	45 Blue Spruce Ct.	Mt. Holly	NJ	08060			Publicity Chr	
Mr.	Mark	Lopez	35 B Stenton Ct.	Trenton	NJ	08610			Pgm Chrm	
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Mr.	Greg	Mauro	915 Princess Dr.	Yardley	PA	19067			Past Director	
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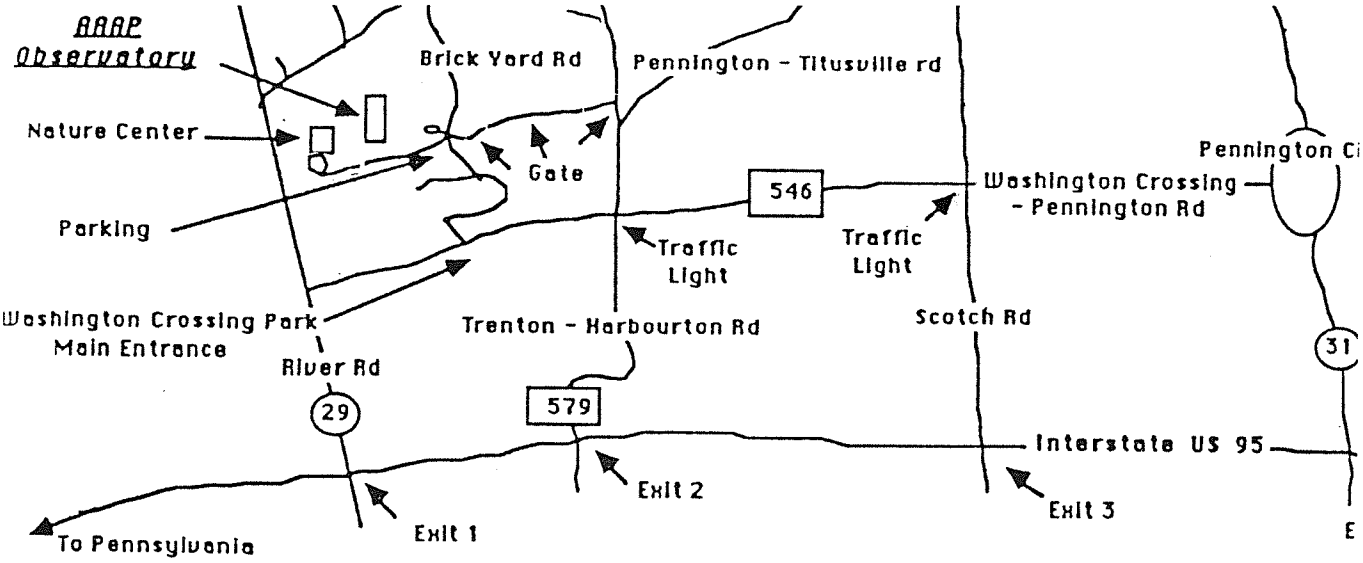
Mr.	Ron	Mittelstaedt	149 Palmer Lane	Trenton	NJ	08618			JJ Obsv Chr	
Mr.	Saul	Moroz	2092 Amwell Rd.	Somerset	NJ	08873			Membership	
Dr.	Chris	Moser	236 Winding Way	Morrisville	PA	19067				
Mr.	Bill	Murray	6 Vincent Ct	Bordentown	NJ	08505			Secretary Past Director	
Ms.	Michele	Novatski	5 E. Wood Lane	Mt. Laurel	NJ	08054			Publisher Com Comm	
Mr	Peter	Oppenheim	4 Adams Ct.	Plainsboro	NJ	08536			Treasurer Librarian	
Dr.	Rex	Parker	147 Church Rd.	Titusville	NJ	08560			Wash Xing Obsv Chrm Past Director	
Mr.	Gene	Ramsey	639 Scotch Rd.	Pennington	NJ	08534			Education	
Mr.	Larry	Smith	35 Stacy Dr.	Belle Mead	NJ	08502			UACNJ Rep Past Director	
Mr.	George	Walker	180 A Old York Rd.	Trenton	NJ	08620			Exhibits and Promotions	



The best way to get to the observatory is to take Interstate 95 South towards Pennsylvania. Then take Scotch road at Exit 3 and proceed north (this amounts to right). Then, at the third traffic light take a left onto the Washington Crossing-Pennington road (County Route 546). Take this road to the first traffic light and take a right onto Trenton-Harbourton road (County Route 579). Take this road to the first driveway on the left, this is the Phillips Farm/Soccer Field entrance to the park. There is a series of three gates with club combination locks. If the gates are not open, you will need the lock combination to open the gate or be accompanied by a Keyholder member.

January 2002

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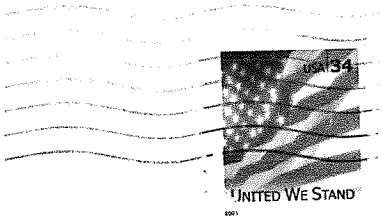

See us on the Web: www.princetonastronomy.org