

NOVAC

THE NEWSLETTER OF THE NORTHERN VIRGINIA ASTRONOMY CLUB

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Crockett Park 540 788-4867
Savage Park (Paul McCray) 703 729-0596
Arlington Planetarium 703 358-6070

NOVAC's Web Page

<http://astro.gmu.edu/~novac>

President's Column

Brenda Clements Jones

Our third annual picnic has come and gone. This last one was attended by more clouds than people interested in astronomy. It's too bad more of you didn't come. We had a good time. The park is a lovely setting for a picnic and it's a great time to get to know that person who you have only been able to identify by the sound of his voice in the past.

It's been pointed out to me that our general monthly meetings are a difficult place to get to know other members because folks are anxious to get back home after the meeting is over. I hope you'll give our "dinner before the meeting" a try. The social benefits of this meeting are just what Brent had in mind when he suggested we try getting together for dinner before our general monthly meetings several years ago. Not only is it a good opportunity to get to know other club members but it's a nice chance to discuss the latest happenings in astronomy too. Look for time and place of our "dinner before the meeting" elsewhere in this newsletter.

Another event coming up that I hope will draw lots of members out not only for socializing but for observing too, is our telescope meet. It's scheduled for September 6. I'm hoping that everyone who has a telescope will bring it out to Crockett Park and set it up. If the scope is

(Continued on page 2)

What's Up?

Al Schuman

By any valid measure Comet Hale-Bopp was a smashing success. It had to follow a mighty tough act. Just one year ago, Comet Hyakutake gave a stunning, albeit brief, performance. It raced across the sky in a blaze of glory, looped around Polaris, and dived below the horizon. In contrast, Comet Hale-Bopp has been like the Energizer Bunny. It just keeps going, and going, and going!

We had our first peek at Hale-Bopp in August '95 -- before we even moved to Williamsburg. The comet didn't look like much at the time because it was so far away. That we could see it at all in small telescopes back then was a testament to its unusually large size and extraordinary activity. We picked it up again a year later from the Colonial Parkway as Hale-Bopp traveled through Scutum. It was on the verge of naked eye visibility, but it still had a long way to go to fulfill its promise.

Fast forward to 1997. We began a comprehensive observing program in mid February as the comet approached its highest elevation in the morning sky. We made visual observations with our 10x50 binoculars and the Astroscan at 18x. In addition, we took photos during most sessions. We used a tripod mounted camera with a 50mm, f/1.2 lens and shot Fujicolor 1600 ISO print film. We also slipped in a

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Upcoming NOVAC Meetings at the Arlington Planetarium

Tilly Smith

July 16

Russian Space Program
Rob Landis

August 20

Solar Flares
Speaker from the
Goddard Space Flight Center

September 17

Star Atlas 2000 Development
Perry Remakius
(tentative)

What's Up?

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couple of rolls of Kodacolor Royal Gold 1,000. Exposures ranged from 20 to 30 seconds.

Hale-Bopp was an easy naked eye object in February, but it didn't start showing its stuff until early to mid March. By then, any doubts about Hale-Bopp's greatness were dispelled. It was a knockout! It had a very bright nucleus, a huge coma, and a broad, bushy dust tail. In the morning sky, the tail was pointing just about straight towards the zenith. Visually, Hale-Bopp looked as if it were spinning like a curve ball. To illustrate, on March 9 the comet was just below Cygnus, and the tail was pointing at Deneb. Imagine a baseball pitcher (Deneb)

throwing a curve to a batter on the ground. Visually it appeared that most of the dust was jetting out to the right (east) side of the nucleus and

then arcing back into the solar wind slipstream. Our cosmic curve ball appeared to be hooking down and inside to a right-handed batter. (Everybody knows Deneb is a south-paw.) This visual impression of a curve ball was evident throughout the comet's apparition. Our photos showed the ion tail as a lovely blue streamer that gave a nice balance to the comet, so the curve ball illusion was lessened on film. On the other hand, we never clearly saw the ion tail though the binoculars, the telescope, or by naked eye. We reckoned it was overpowered by the brightness of the dust tail. At best, we could see a faint notch where the dust and gas tails separated. Other folks claimed they could see the ion tail just as plain as day. Possible conclusions: 1. Our eyeballs are shot. 2. Some people are confusing the dust tail with the ion tail. 3. A lot of folks are lying like hell.

We welcomed the comet's transition from the morning to the evening sky following the full moon in March. The early rising was really starting to get to us. We found ourselves moping around like zombies for days at a time -- praying for rain. Very few morning sessions were lost to weather. However, we did lose one by oversleeping.

The partial lunar eclipse provided a nice change of pace on the night of March 23/24. We joined a group at the Skywatchers' observatory and enjoyed the show. The sky was clear, and the moon was very pretty at approximately 92% of maximum. The reddish color was quite striking. Our pictures didn't measure up to expectations as the winds were very gusty. The camera and telescope vibrated just enough to blur the longer exposures. Still, it was a visual treat, and that's what counts.

Hale-Bopp really hit its stride in late March and early April. In every way the comet grew larger and brighter, and it overshadowed just about everything. Because of the angle, the tail never did measure up to Hyakutake's in length, but its brightness and fullness were awesome. An article in *Sky & Telescope* noted that Hale-Bopp was releasing approximately 400 metric

tons of dust and between 18,000 and 27,000 gallons of water per second. This output is many times greater than either Comets Halley or Hyakutake. In short, the comet was sensational. We were blest with a very cooperative moon. Whether we were observing in the morning or the evening, the moon was out of the way during Hale-Bopp's most impressive periods. At the same time, we had a stretch of near perfect weather. It was clear for 13 of 16 nights. Unfortunately, one of the cloudy nights scratched a Skywatchers' outing along the Colonial Parkway. By about April 10, the comet was supposed to have passed its peak,

— It raced across the sky,
— looped around Polaris, and
— dived below the horizon.

but you couldn't see much change from here. It was still comfortably above the horizon, and its brilliance did not seem to have diminished significantly. Hale-

Bopp was just as captivating as ever.

Alas, all good things come to an end. By late April, Comet Hale-Bopp began edging its way towards the horizon and into the trees. But it certainly was a great ride -- and a long one. Fortunately, we did take lots of pictures, and while photos are no substitute for the real thing, they can serve to rekindle memories of this great comet. For anyone with a good horizon or a hill to climb there was still time to watch the comet that keeps going, and going, and going.

Miscellaneous

Brent Archinal wrote a nice piece for the Astro Forum in the May issue of *Astronomy*. Just imagine seeing M-81 with the naked eye. The skies must have been breathtaking. Chances are, most of us would have gotten lost among the myriad stars not normally seen from home. Also, we noted Bill Burton's poetic description of Hale-Bopp's "forked tails and gossamer wings." (May, *Sky & Telescope*.) Finally, we enjoyed the e-mail chatter about the comet and especially appreciated Bill's advisory on the pudding.

Call for Articles

Here's your chance to see your name in print! Be the first one on your block. Write an article for the NOVAC Newsletter describing your observing experiences: good, bad, or indifferent.

Beginners are welcome.

Tell us how you liked observing sites both local and distant. Tell of your experiences buying telescopes and accessories.

What are your favorite astronomy books?

Article submissions, in ASCII please, may be posted to Elliott Fein on the Internet at edfein@cpcug.org. Send typewritten material to Elliott at 5 Carter Court, Rockville MD 20852-1005

Questions? Call Elliott at 301 762-6261 or contact him on the Internet.

President's Column

(Continued from page 1)

new to you and you're not sure how to set it up it'll be a great chance to ask more experienced folks your questions. If you're new to astronomy and wondering what a SCT is, or what the advantages of a refractor over a reflector are, now's your chance to find out — come to Crockett and ask those questions! An additional fun event at our telescope meet will be our swap meet which will be set up in the afternoon. Stay tuned for more details!

One more thing before I sign off. I want to thank a few folks who go month after month without getting the pat on the back that they truly deserve. They are Steve Smith and his staff at the Arlington Planetarium. Our monthly meetings would be not nearly as much fun and interesting (and certainly more of a challenge to pull off) if we didn't have the Arlington Planetarium available to us. Also Gary Kwolek and his staff at Crockett Park who are so very patient with us and provide us with a wonderful setting for holding our monthly observing sessions and occasional grand celestial events. And last but not least, Dr. John Wallins at George Mason University who provides us with a site for our web page and therefore has brought us into the modern world!

Hope to see you sometime out under the stars this summer — or at the Arlington Planetarium!

—Brenda

International Dark-Sky Assoc.



Join the IDA!

3545 N. Stewart Tucson AZ
85716

NOVAC Says "Yes" to Astronomical League

Lee Polikoff

At the monthly meeting in May, NOVAC members were presented with the option to remain in the Astronomical League or to have NOVAC go it alone. Members were given an opportunity to voice their opinions before a vote was taken. There was impassioned and sometimes heated debate from both sides of the issue before the final vote was taken. In the end, the Astronomical League won hands down, as an overwhelming majority voted to keep NOVAC as a member club. Throughout the debate the speakers talked of what was best for the club. And that's the key, what's best for NOVAC. For one more year, we have given the Astronomical League an opportunity to prove its worth. How does it do that? In order for the Astronomical League to be successful in the mind of NOVAC members, we as a club need

to take advantage of all the Astronomical League has to offer. It's easy to criticize what it doesn't provide if you don't take advantage of what it does provide. There are observing awards aplenty.

From naked-eye observing to binoculars and telescopes, from the moon to Messier objects to Herschel's 400 to CCD imaging, there is something for everyone, and I do mean everyone. For those of us seeking the knowledge of the astronomy gods, the AL provides books and pamphlets that describe many facets of our insatiable hobby. The *Reflector* is only a small part of what the Astronomical League has to offer. It takes nothing on your part to get it (except your dues), and quite frankly, it is not as good as NOVAC's own newsletter. That is why, in order to make the AL work, we need to

take advantage of the other aspects of the AL. In every newsletter, I, as NOVAC'S ALCOR, will try to provide a small piece of information as to what the Astronomical League has to offer (see page 5 this issue). I will also provide handouts and a brief discussion at every meeting. I look forward to presenting observing awards to those of you who have earned them. I will do whatever I can to make the AL worthwhile; now it's your turn.

Sincerely,

Lee Polikoff, NOVAC ALCOR

Impopeye@erols.com

(703) 250-2355

Photographs Wanted

Date: Sun, 1 Jun 1997 20:35:15 -0400 (EDT)

From: Stephen Scholand
<scholand@gwis2.circ.gwu.edu>

To: Elliott Fein <edfein@cpucug.org>

Subject: Re: Call for Articles

Hi,

Anyone with photographs of astronomical phenomena (e.g., stunning Hale-Bopp pictures) willing to help illuminate the GW medical school class of '98 yearbook are encouraged to contact Steve Scholand at scholand@gwis2.circ.gwu.edu or 202-337-7768. We unfortunately cannot pay anything more than the real costs of the photos but would of course give you proper recognition in the yearbook credits. Thanks!

Stephen J. Scholand
scholand@gwis2.circ.gwu.edu

A New Club Telescope

Craig Tupper

NOVAC now owns three telescopes! Recently, a friend of mine donated a **very** nice 8" f/16.4 classical Cassegrain to the club. It was made in 1970 at the Caltech optical lab. Only problem is, it needs a mount.

The scope is about 36" long. It has a 10x40 Celestron finder, a 2" helical focuser with 1/4" adapter and diagonal, a 20mm Kellner eyepiece and a glass solar filter (with a couple of pinholes). It weighs 33 pounds and really deserves a nice equatorial mount with drives on both axes. It is currently in my basement in a wooden chest measuring 14x18x42 inches. Since it lacks a mount, I haven't used it yet, but it should be a knockout, especially on the planets. The collimation and the coatings look perfect.

The consensus of the NOVAC Board is that after we get a mount for this thing, it is too nice (and too cumbersome) to use as a loaner

scope. What we may do is get a mount for it and bring it to observing sessions as the "club scope", until we find a location (maybe a new dark site) where it could be left permanently for members to use. I have also told the board that if we find (or buy) a nice mount, I will buy a CCD and make the scope available at Crockett for those interested in CCD's to get some practice and take home a few images. We could also post images on the Web page, and maybe even do some "serious" observing: variable stars, supernova hunting, etc.

So, anybody have any hot tips on a sturdy mount? Remember, donations to NOVAC are tax-deductible; why let that CG-11 mount gather any more dust? If you have any ideas, call me or e-mail me: ctupper@erols.com. If nobody steps forward with a mount, the Board will consider buying a new or used mount, and maybe we'll have this thing collecting photons within a few months.

NOVAC Library Expands!

Craig Tupper

Have you ever used the NOVAC Library? Located in the back room of the Arlington Planetarium, the library offers a wide selection of astronomical books for loan to members. A list of the books available was included in the September/October 1996 *NOVAC Newsletter*. However, that list is now out-of-date.

New on the shelves are the following:

Uranometria (all 3 volumes), the premier sky charts for amateurs

Astrophotography, Gordon

How to Make a Telescope, Texereau

Planetary Nebulae, Hynes

The CCD Cookbook, Berry

Choosing and Using a CCD Camera, Berry

Introduction to Astronomical Image Processing, Berry

The Backyard Astronomer's Guide, Dickinson and Dyer

How and Why to Make a User-Friendly Sidewalk Telescope, Dobson

Burnham's Celestial Handbook (3 volumes)

Deluxe Sky Atlas 2000, Tirion

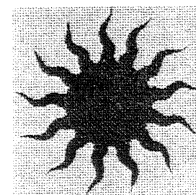
Observing Handbook and Catalogue of Deep Sky Objects, Luginbuhl & Skiff

And more new books are on the way! The library is a great resource for NOVAC members. The loan conditions are given elsewhere in this newsletter. Check it out at a monthly club meeting soon.

For Sale

6" f/10 Newtonian Reflector, optimized for high-contrast planetary viewing, full thickness Pyrex primary, small 3/4" enhanced secondary, baffled cardboard tube, alt-az mount, 60x eyepiece, and finder, \$180.

John Avellone 703 768-8086.



Financial Statement

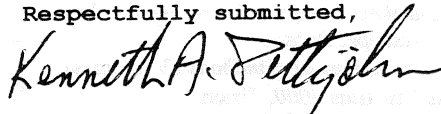
Kenneth A. Pettijohn

Northern Virginia Astronomy Club
Statement of Cash Received and Disbursed
For the period January 1, 1997 through June 20, 1997

| CASH RECEIVED: | | | |
|--|------------|-----------------|-------------------------|
| Membership Dues: | | | |
| Regular and Additional: | | | |
| Renewals | \$1,680.00 | | |
| New Members | 882.00 | | |
| Supporting (New Member) | 100.00 | \$2,662.00 | |
| Interest Income | | | 131.06 |
| Hat Sales | | | 20.00 |
| Total Cash Received | | | \$2,813.06 |
| CASH DISBURSED: | | | |
| Newsletter: | | | |
| Printing & Assembly | 308.85 | | |
| Postage | 230.40 | 539.25 | |
| Library: | | | |
| Books | 291.98 | | |
| Doors & Lock | 13.72 | 305.70 | |
| Observing Site Expenses: | | | |
| Portable Toilet | 67.93 | | |
| Picnic Permit | 45.00 | 112.93 | |
| Hotline Expense | | 145.77 | |
| Publicity (Printing) | | 15.15 | |
| Administrative: | | | |
| Printing - | | | |
| Membership Applications | 31.35 | | |
| Postage | 93.31 | | |
| State Registration Fee | 25.00 | 149.66 | |
| Total Cash Disbursed | | 1,268.46 | |
| EXCESS OF CASH RECEIVED OVER CASH DISBURSED | | | 1,544.60 |
| Cash at beginning of period: | | | <u>8,622.77</u> |
| CASH AT END OF PERIOD | | | <u>10,167.37</u> |

| Cash At End Of Period: | | | |
|------------------------------------|----------|------------------|--|
| Check written Nicole Mastej for | | | |
| July/August newsletter | 275.00 | | |
| Checking Account | 2,073.73 | | |
| Savings Account | 4,763.02 | | |
| Certificate of Deposit Due 9/13/97 | 3,055.62 | <u>10,167.37</u> | |

Respectfully submitted,



Kenneth A. Pettijohn,
Treasurer (1/96 through 6/20/97)

DINNER BEFORE THE MEETINGS

Brent A. Archinal

July 16 and August 20 are the dates of the next NOVAC regular meetings — and, not coincidentally, those are also the dates of our next “dinner before the meeting” get-togethers! We’re continuing this tradition so members will have a quiet, non-rushed atmosphere to meet and sit and discuss astronomy. And, unlike many of our events, you won’t have to bring your telescope and you’ll be able to see who it is you’re talking to!

The place to meet continues to be the *Santa Fe Cafe* in Rosslyn. You should plan to arrive at about 5:45 PM, in order to have time to make it to the regular meeting at the Arlington Planetarium at 7:30 PM. This is a nice Mexican restaurant with reasonable prices, although credit cards are not accepted. Smoking is allowed in one part of this (large) one room restaurant, but so far NOVAC members have not been smoking and the few others dining at that time have rarely smoked. If you do arrive first, we would appreciate it if you’d try to sit in the front in the non-smoking section. There’s always plenty of space, so don’t worry about finding room with us.

Directions: The *Santa Fe Cafe* is located at 1500 Wilson Blvd, in Rosslyn, with entrances off of both Wilson Blvd. and Clarendon Blvd. This restaurant is easily found, just west of “downtown Rosslyn”, on the southwest corner of Wilson Blvd. and N. Oak Street, where Wilson splits becoming Wilson one-way west and Clarendon one-way east. From I-66 east, take the Rosslyn exit to Lee Highway, and turn right at the second light onto Fort Myer Drive. Go two blocks and turn right onto Wilson, and the restaurant will be one block ahead on your left (on the corner across Oak/Clarendon from a big outdoor sculpture). On street parking is usually available in front of the restaurant, on the other side of the street up the hill, or around the long block (make two left turns) on Clarendon just before it ends by the restaurant. However, be sure to feed any parking meter if you arrive before 6 PM. This location is also quite close to the Rosslyn metroraill station.

Reservations are not necessary, although it helps a lot to know who’s coming so we’ll know how big a table to get. Also, should it be necessary to cancel (which it never has by the way), I can let you know. So, if you know you’re coming, or if you need a ride to the meeting and back to the metro, or just for more information or directions, please give me a call (evenings) at 703-237-0201. (This is a new home phone number that is supposed to be in service by the time you read this.) You can also e-mail me at baa@casa.usno.navy.mil.

See you at dinner!

- Brent A. Archinal

Astronomical League Lunar Club

Lee Polikoff

It seems that for the past few months, the only clear nights came during the week or at full moon. Not very conducive for dark sky observing. Here is the answer to your prayers. The Astronomical League has a certificate for those times when nature just refuses to cooperate. It is called the Lunar Club. Anyone who identifies all of the objects on the list will be awarded a certificate as well as a pin. The list is so simple, that I expect **everyone** at NOVAC to have their certificate by the start of the new year.

To qualify you must observe any 100 lunar features from the list below. The luna features are

broken down into three groups to test your viewing prowess: naked-eye objects; binocular and telescopic. There is no particular order for viewing these objects. However, should you have problems, there are ten optional activities included at the end of the list. Each activity counts as two observations from either the binocular or telescope list.

To get your award, simply check off the features as you observe them, listing the equipment used, and time and date observed. Once completed, bring the sheet to the next NOVAC meeting or mail to NOVAC's ALCOR. Upon

verification, the certificate and pin will be awarded. That's all there is. I hope to award certificates to everybody. If you have any questions I can be reached at:

Lee Polikoff
6146 Martins Landing Ct.
Burke, VA 22015
(703) 250-2355
impopeye@erols.com

Lunar Club Program

Naked Eye Objects

Instruments Used

| CHK | OBJECT | FEATURE | DATE | TIME |
|--------------------------|------------------------|-----------------------------|-------|-------|
| <input type="checkbox"/> | (Within 72 Hrs of new) | Old Moon in New Moon's Arms | _____ | _____ |
| <input type="checkbox"/> | (Within 72 Hrs of new) | New Moon in Old Moon's Arms | _____ | _____ |
| <input type="checkbox"/> | (Within 40 Hrs of new) | Crescent Moon, Waxing | _____ | _____ |
| <input type="checkbox"/> | (Within 48 Hrs of New) | Crescent Moon, Waning | _____ | _____ |
| <input type="checkbox"/> | | Man in the Moon | _____ | _____ |
| <input type="checkbox"/> | | Woman in the Moon | _____ | _____ |
| <input type="checkbox"/> | | Rabbit in the Moon | _____ | _____ |
| <input type="checkbox"/> | | Cow Jumping over the Moon | _____ | _____ |
| | Maria | | | |
| <input type="checkbox"/> | | Crisium | _____ | _____ |
| <input type="checkbox"/> | | Fecunditatis | _____ | _____ |
| <input type="checkbox"/> | | Serenitatis | _____ | _____ |
| <input type="checkbox"/> | | Tranquillitatis | _____ | _____ |
| <input type="checkbox"/> | | Nectaris | _____ | _____ |
| <input type="checkbox"/> | | Imbrium | _____ | _____ |
| <input type="checkbox"/> | | Frigoris | _____ | _____ |
| <input type="checkbox"/> | | Nubium | _____ | _____ |
| <input type="checkbox"/> | | Humorum | _____ | _____ |
| <input type="checkbox"/> | | Oceanus Procellarum | _____ | _____ |

Binocular Objects

Instruments Used

| CHK | OBJECT | FEATURE | DATE | TIME |
|--------------------------|---------|-------------------|-------|-------|
| <input type="checkbox"/> | | Lunar Rays | _____ | _____ |
| <input type="checkbox"/> | | Sinus Iridum | _____ | _____ |
| <input type="checkbox"/> | | Sinus Medii | _____ | _____ |
| <input type="checkbox"/> | | Sinus Roris | _____ | _____ |
| <input type="checkbox"/> | | Palus Somnii | _____ | _____ |
| <input type="checkbox"/> | | Palus Epidemiarum | _____ | _____ |
| <input type="checkbox"/> | | Mare Vaporum | _____ | _____ |
| | Craters | | | |
| <input type="checkbox"/> | -4 Days | Langrenus | _____ | _____ |
| <input type="checkbox"/> | | Vendelinus | _____ | _____ |
| <input type="checkbox"/> | | Petavius | _____ | _____ |
| <input type="checkbox"/> | | Cleomedes | _____ | _____ |
| <input type="checkbox"/> | | Atlas | _____ | _____ |
| <input type="checkbox"/> | | Hercules | _____ | _____ |
| <input type="checkbox"/> | | Endymion | _____ | _____ |
| <input type="checkbox"/> | | Macrobius | _____ | _____ |
| <input type="checkbox"/> | -7 Days | Piccolomini | _____ | _____ |
| <input type="checkbox"/> | | Theophilus | _____ | _____ |
| <input type="checkbox"/> | | Cyrellus | _____ | _____ |
| <input type="checkbox"/> | | Catharina | _____ | _____ |
| <input type="checkbox"/> | | Posidonius | _____ | _____ |
| <input type="checkbox"/> | | Fracastorius | _____ | _____ |
| <input type="checkbox"/> | | Aristoteles | _____ | _____ |
| <input type="checkbox"/> | | Eudoxus | _____ | _____ |
| <input type="checkbox"/> | | Cassini | _____ | _____ |
| <input type="checkbox"/> | | Hipparchus | _____ | _____ |
| <input type="checkbox"/> | | Albategnius | _____ | _____ |
| <input type="checkbox"/> | | Aristillus | _____ | _____ |
| <input type="checkbox"/> | | Autolykus | _____ | _____ |
| <input type="checkbox"/> | | Maurolycus | _____ | _____ |

(Continued on page 6)

(Continued from page 5)

| | | | | |
|--------------------------|----------|---------------|-------|-------|
| <input type="checkbox"/> | ~10 Days | Plato | _____ | _____ |
| <input type="checkbox"/> | | Archimedes | _____ | _____ |
| <input type="checkbox"/> | | Ptolemaeus | _____ | _____ |
| <input type="checkbox"/> | | Alphonsus | _____ | _____ |
| <input type="checkbox"/> | | Arzachel | _____ | _____ |
| <input type="checkbox"/> | | Walter | _____ | _____ |
| <input type="checkbox"/> | | Maginus | _____ | _____ |
| <input type="checkbox"/> | | Tycho | _____ | _____ |
| <input type="checkbox"/> | | Clavius | _____ | _____ |
| <input type="checkbox"/> | | Eratosthenes | _____ | _____ |
| <input type="checkbox"/> | | Longomontanus | _____ | _____ |
| <input type="checkbox"/> | | Copernicus | _____ | _____ |
| <input type="checkbox"/> | | Bullialdus | _____ | _____ |
| <input type="checkbox"/> | | Aristarchus | _____ | _____ |
| <input type="checkbox"/> | Gassendi | _____ | _____ | |
| <input type="checkbox"/> | ~14 Days | Kepler | _____ | _____ |
| <input type="checkbox"/> | | Grimaldi | _____ | _____ |

Telescopic Objects

Instruments Used

| CHK | OBJECT | FEATURE | DATE | TIME | |
|--------------------------|--------------------|-----------------------------|-------------------|-------|-------|
| <input type="checkbox"/> | | Sinus Aestuum | _____ | _____ | |
| <input type="checkbox"/> | | Lacus Mortis | _____ | _____ | |
| <input type="checkbox"/> | | Palus Putredinis | _____ | _____ | |
| <input type="checkbox"/> | | Promontorium Laplace | _____ | _____ | |
| <input type="checkbox"/> | | Promontorium Heraclides | _____ | _____ | |
| <input type="checkbox"/> | | Promontorium Agarum | _____ | _____ | |
| <input type="checkbox"/> | | Montes Alpes | _____ | _____ | |
| <input type="checkbox"/> | | Montes Apenninus | _____ | _____ | |
| <input type="checkbox"/> | | Mons Hadley | _____ | _____ | |
| <input type="checkbox"/> | | Mons Piton | _____ | _____ | |
| <input type="checkbox"/> | | Mons Pico | _____ | _____ | |
| <input type="checkbox"/> | | Rupes Altai | _____ | _____ | |
| <input type="checkbox"/> | | Rima Hyginus | _____ | _____ | |
| <input type="checkbox"/> | | Vallis Schroteri | _____ | _____ | |
| <input type="checkbox"/> | | Vallis Alpes | _____ | _____ | |
| <input type="checkbox"/> | | Rupes Recta (straight wall) | _____ | _____ | |
| <input type="checkbox"/> | Craters | | | | |
| <input type="checkbox"/> | | ~4 Days | Picard | _____ | _____ |
| <input type="checkbox"/> | | | Furnerius | _____ | _____ |
| <input type="checkbox"/> | | | Petavius Wall | _____ | _____ |
| <input type="checkbox"/> | | | Messier/Messier A | _____ | _____ |
| <input type="checkbox"/> | | ~7 Days | Proclus | _____ | _____ |
| <input type="checkbox"/> | | | Fabricius | _____ | _____ |
| <input type="checkbox"/> | | | Plinius | _____ | _____ |
| <input type="checkbox"/> | | | Mitchell | _____ | _____ |
| <input type="checkbox"/> | | ~10 Days | Cassini A | _____ | _____ |
| <input type="checkbox"/> | | | Manilius | _____ | _____ |
| <input type="checkbox"/> | | | Gemma Frisius | _____ | _____ |
| <input type="checkbox"/> | | | Davy | _____ | _____ |
| <input type="checkbox"/> | | ~14 Days | Pitatus | _____ | _____ |
| <input type="checkbox"/> | Billy | | _____ | _____ | |
| <input type="checkbox"/> | Fra Mauro | | _____ | _____ | |
| <input type="checkbox"/> | Clavius craterlets | | _____ | _____ | |
| <input type="checkbox"/> | | Hippalus | _____ | _____ | |
| <input type="checkbox"/> | | Herschel, J. | _____ | _____ | |
| <input type="checkbox"/> | | Schickard | _____ | _____ | |
| <input type="checkbox"/> | | Reiner Gamma | _____ | _____ | |

Optional Activities:

Naked Eye:

1. Estimate first quarter phase within eight hours.
2. Estimate third quarter phase within eight hours.
3. Estimate full moon within thirty-six hours.
4. Plot moon's position against the stars for three consecutive days.
5. Compare the size of the full moon on the horizon with the full moon on the meridian using a dime held at arm's length.
6. Find the thinnest phase by which you can read newsprint.

Binocular:

1. Sketch libration - use Mare Crisium or Grimaldi for examples.
2. Sketch a lunar map - use any scale for binoculars only.

Telescopic:

1. Plot the moon's hourly motion against the stars for two hours or more.
2. Measure the height of a lunar mountain - need to calculate the sun's elevation at the mountain and estimate the shadow length - try Mt. Piton.

Winter Star Party, 1997 Robert Bunge

CONTINUED FROM THE MAY/JUNE NOVAC NEWSLETTER

In no time, Alan and I were star hopping to various objects in the southern constellations. Three palm trees blocked various parts of the sky, so we'd look at a chart and figure out if the telescope could see that part of the sky. One of us would use the chart, either the *Bright Star Atlas* or *Uranometria*, and the finder on the 20-inch to move the telescope to about the right place in the sky. The other would select a good eyepiece, move the step-ladder and climb up on command and scan for the object in question. In this fashion, we quickly started to find and record objects.

But the highlight of the night wasn't in the south; it was straight overhead in Gemini. At a point when southern objects were behind trees, Alan suggested looking for IC 443, a supernova remnant in Gemini. It was a pretty simple star hop from the bright cluster M-35, so in no time we were searching for it. After a few minutes, we were pretty sure that we could see a piece of it — it's a large nebulous object about 50 arc-minutes across, much like the Veil nebula, only much fainter. After borrowing a better eyepiece and matching nebula filter from George, we could make out much more of the object and even trace out fainter areas.

By 2:30 a.m., Alan had retired and Mars was high enough in the sky to warrant a good looking over. The seeing was excellent — I'll guess sub-arc-second. I was able to push the power up past 800x with ease. The detail on the small disk was amazing. I had observed Mars in great detail during the 1988 and 1990 approaches using the 31-inch reflector at Warren Rupp Observatory near Mansfield, Ohio. The detail I was seeing from WSP was pretty close to the views I saw from Ohio. I had never realized what a difference good seeing makes! Not that the 31-inch is a bad scope — I consider it to be the best observatory mounted 30-inch class telescope I've ever seen — it's just that the seeing in upper Ohio isn't always that good.

I would watch Mars 10 or 15 minutes then take a break while others looked. Mare Acidalium was very large and dark and showed bright and dark areas within its borders. In the north, the Mare Erythraeum area was loaded with detail, specially the Aurorae Sinus region. As the night progressed, it was pretty easy to see a thin dark line that broke away to the west from the Aurorae Sinus region. While rarely marked on the maps of Mars, this dark line is actually the famous Valley of the Mariner, the largest canyon in the solar system. It was the first time I had ever been able to pick out that specific feature. Soon it was going on 4:00 A.M. and it was time to call it a night.

Thursday and Friday nights were pretty much repeats of Wednesday night. Alan and I would pick objects to observe and dodge the palm trees that got in the way. Once we had exhausted the supply of objects to the south, we'd move to the north. Once Alan had left, I mostly looked at Mars. On Friday night, the

wind coming off the ocean picked up to a steady 30-mph blow just after midnight. This was too much for the 20-inch, so I shut it down and wandered the field.

As I wandered the field, looked through dozens of telescope, and observed the "action" I noted some trends:

- CCD's are here to stay, at least for a while. The number of setups amazed me where the telescope, usually a Meade SCT, was inside a ten-foot by ten-foot square of 3/4-inch PVC tubing covered with blue plastic tarps, forming a wall to protect the scope from the wind. A mass of cords then led to the observers and their computers, either under a canopy or inside of a trailer.
- Small computers that point telescopes at deep sky objects are here. I think Alan and I were using the largest telescope on the field that wasn't pointed by one of these devices (they run between \$300 to \$400). This leads me to a final point.
- Deep sky observing has come a long, long way. It is now very common for amateurs to observe the fainter NGC objects and they aren't afraid of even fainter objects in the bigger catalogues. This is because the information is now more easily available in pointing computers and planetarium programs like Megastar and The Sky. When I observed these sorts of objects in 1988 with the 31-inch at Rupp, I spent three to five hours on homework for every hour of observing. And it was difficult homework. I had to talk my way into my local university astronomy department's library and spend hours examining printed catalogues and Palomar Sky Survey prints. Today, it's much easier.

Saturday morning, people started to pack up, even though WSP continued until Sunday morning. A good space freed up in the "Valley of the Dobs," so I moved the 20-inch, hoping that there would be more protection from the wind that night. But there wasn't any wind, once the sun went down.

I had just started observing when someone yelled out "flasher." We soon zeroed onto the object: a point of light near Leo that flashed about every three seconds. At first, the flashes were naked eye. After three flashes, I was able to center the area of the flash in the 20-incher's finder scope. Using a 32mm eyepiece at 130x, I found a dim, moving, star-like object, which sure enough, flashed to almost 1st magnitude! I watched it for at least a minute before I realized that I could let go of the telescope and not have to track the object by moving the telescope — my undriven telescope was doing the tracking for me! It was a satellite in geosynchronous orbit!! I found that when there was a stationary object in the field of view, the motion of the stars became apparent!

Soon after, Ed Boutwell came over with a 32mm wide-field eyepiece, a Lumicon H-Beta filter, and a request to look at the Horsehead Nebula in Orion. I had seen it many times in the 31-inch at Warren Rupp, but never in my 20-inch. With the filter, it was easy to see and viewers climbing up the ladder didn't need to be told where to look. I considered it a very good view because it was possible to see the bright area right at the tip and slightly under the horse's snout. If you can see this bit of detail, the shape of the head becomes apparent and it really looks like the head of a horse.

After a few minutes, Ed, in search of a smaller telescope, disappeared with his filter and eyepiece. Last I had heard, he had found it in a 10-inch scope. I took a different route. Now that I knew the area and what to look for (a key to seeing the Horsehead is getting a grasp on its apparent size in the eyepiece), I found it using a Lumicon UHC filter.

It was harder than with the highly specialized H-Beta, but it was still pretty easy. The snout was only visible with great care. It was harder yet to see with a Lumicon Deep Sky filter. The final challenge was to see it with no filter! Without any filter, it was possible to see the line that separates the dark nebula from the glowing bright nebula. Careful study of the line revealed a notch in the bright side of the nebula where the head is, but no detail or hint of the shape. Is that a sighting? Who knows. It clearly helped to have Orion ten degrees higher than normal and to be observing in a long-sleeve shirt!

By this time, it was apparent that the wind wasn't coming in from the sea. This had a dramatic affect on the WSP site. Without the flow of air over the island, the seeing turned mushy! The high humidity that had been around but not a problem earlier in the week suddenly became fatal for most telescopes on the field. As the scopes cooled to just below the air temperature, heavy dew coated everything. My 20-inch lasted longer than most scopes that didn't have a non-battery powered dew system, but finally the secondary mirror dewed up.

I wandered the field for awhile and finally settled into a discussion with some of the of WSP organizers. They were debating the happenings and issues of the party. It sounded all too familiar, given my experiences in helping to organize the early Hidden Hollow parties in Ohio. It was sort of good to hear that we hadn't been alone in our troubles! Finally, thin clouds rolled in, and it wasn't possible to see the Milky Way, so I called it a final night.

Cathy and I were packed and gone by 10 a.m. and took our time driving to a hotel in Fort Lauderdale. The next morning found us on the way to the train station. After watching the Jeep get loaded on the train, we settled in for the ride. We woke up in the morning to be greeted by the Virginia countryside — covered with snow! Sigh.

Minutes of the May and June Meetings

Pete Johnson

Minutes of the May 13, 1997, Board meeting of the Northern Virginia Astronomy Club

The meeting was called to order at 7:40 p.m. at the home of President Brenda Jones.

Brenda announced that she would be out of town during the May general membership meeting and asked Tilly to run the meeting.

Geoff Chester referred Bill Surgi to NOVAC concerning a project he is involved with. The project involves photographing the sky from different latitudes and he is seeking people who can help with the astrophotography. Bill would like an opportunity to talk to the club.

Brenda discussed the upcoming vote about whether to stay in the Astronomical League.

Ken Pettijohn recommended a voice vote and if it was close to have a roll call vote. Ken noted that officers cannot limit debate without a two-thirds majority, and he wanted to hear all arguments without time limits.

The board decided to:

1. Ask Brent and Bill to discuss the issues and then open the floor for comments and debate.
2. Take a vote by show of hands.

Brenda said that if NOVAC stays in the Astronomical League we will need a new ALCOR.

Pete told us of his conversations with Dr. Wallins of George Mason University about our seeking land or locations for a club dark sky observing site. Dr. Wallins had said that the university may be interested in jointly pursuing observing sites, and that the university's name could help gain access to public or state property.

The GMU Astronomy Department is getting its own telescope and is looking for a permanent site. Dr. Wallins said that they were looking for a closer site, perhaps on campus, that would afford easier access for students.

Craig Tupper said he would write up a statement, and Brenda would announce that we are looking for land at the next meeting.

Fred Mathies suggested we have club name-badges. Price estimates for 1x3 in. badges are: \$38.00 for setup, \$2.72 each for 25 to 49 badges, and \$2.40 each for over 50 badges. Brenda asked if someone wanted to look into it. Ken asked if the club would subsidize the cost. Tilly suggested that we get badges for the officers. Tilly agreed to look into the options.

Brenda said that Crockett park called and asked if someone could set up a telescope, maybe with a solar filter, during the park's anniversary event June 7th and 8th.

Tilly presented the tentative schedule for presentations at meetings.

May - "Star Parties" by club members

June - The Hubble upgrade mission

July - Rob Landis: the Russian Space Program. Craig Tupper announced that NOVAC has a new, donated club scope. It is an 8" f/14 classical Cassagrain. He asked what we wanted to do with it.

Pete said he was working on the Hershel Payne estate equipment and that he was going to make the equipment available to the club for purchase before selling it on the open market.

Pete said he would like to put together a presentation kit for the club that members could use when doing star parties and presentations. The kit would consist of a slide set of astronomy pictures, and a projector and screen.

A motion was made to let Pete put together the presentation kit. (Estimated cost is about two hundred dollars.) The motion was approved.

The meeting was adjourned at 9:15 p.m.

Respectfully submitted,

Pete Johnson,

Secretary

Minutes of the May 1997 General Meeting of the Northern Virginia Astronomy Club

The meeting was called to order at 7:33 p.m. by Vice President Tilly Smith at the Arlington Planetarium. There were 48 members in attendance.

Announcements

The annual NOVAC picnic will be held at C. M. Crockett park on June 7, 1997. There will be a shelter reserved for the club. Everyone is welcome.

Crockett Park is celebrating its anniversary June 7 and 8. The park has requested NOVAC members to come out with their telescopes for public viewing. Call Brenda for details.

Upcoming programs

June - Malcolm Neidner: "A Recap of the Hubble Refit"

July - Rob Landis: "The Russian Space Program"

August - "Solar flares and Solar Activities"

The Hershel Payne estate will be taking sealed bids for Hershel's equipment. A list of the equipment offered and bid instructions were made available to those attending.

Pete Johnson is putting together a presentation kit for club members who do star parties and presentations. We are looking for slide sets, and a projector and screen. Any club member

who would like to donate or sell equipment to the club should contact Pete Johnson.

Officers Reports

Treasurer Ken Pettijohn gave a financial report.

Other Business

Craig Tupper showed a donated 8" classical Cassegrain optical tube assembly (OTA). The optics were made in the Caltec optical lab and should make an excellent planetary scope. The club is looking for a high quality mount suitable for astrophotography.

Craig announced that the club is looking for new dark sky sites within a reasonable driving distance.

Astronomical League Vote

Tilly asked for discussion on whether NOVAC should remain a member of the Astronomical League. Tilly then asked that only club members vote.

Brent Archinal and Bill Burton gave summaries of the pro's and con's of the issues as published in the last newsletter.

Ken Pettijohn gave a detailed analysis of the AL's management and accounting practices. Additionally, he gave financial numbers about the costs of membership to the club and suggested that NOVAC could better spend the money on other activities.

Sandy Sanders spoke noting the problems with the AL. He cited problems with the national award programs, the trust fund, and the AL's inability to face its problems. Sandy said that NOVAC's vote within the AL is proportional to its size and NOVAC is a large club, that the AL needs to improve and our leaving won't promote its improvement, and that the failure of the AL would harm amateur astronomy in the USA.

It was suggested that NOVAC could provide the same services and awards now offered by the AL. Bob L'Hommedieu said that NOVAC often says it will do something but doesn't follow through.

A motion was made to stay in the AL for one year, provisionally, to see if NOVAC will make the effort to provide comparable services and benefits to its membership. We would revisit the issue at that time.

The membership then voted with a show of hands. Result: NOVAC will stay in the AL as per the motion.

Lee Polikoff volunteered to be the new ALCOR.

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(Continued from page 8)

Observing Report

Jeff Stetekluh gave the monthly observing report.

Sky Tour

Jon Stewart-Taylor gave the sky tour.

Program

The program was "Star Parties" given by NOVAC members.

The meeting adjourned at 9:45 p.m.

Respectfully submitted,

Pete Johnson,

Secretary

canceled due to bad weather. Another attempt will be scheduled to evaluate the site.

Other Business: Bill Burton is going to judge a science fair and wants to print awards. Brenda suggested giving savings bonds as awards. Bill thought an astronomy book would be good. Bill suggested that other members get involved with science fairs noting how fun and challenging it is.

Pete said that he would not be available for the next meeting and will be on vacation July 9 to 15. Bill Jensen has agreed to fill in as secretary during that time.

The meeting was adjourned at 9:40 p.m.

Respectfully submitted,

Pete Johnson,

Secretary

that information about the Astronomical League observing certificate program would be printed soon in the newsletter.

4. Brenda reported that Sandy Sanders advised that the Astronomical League would hold its annual meeting on July 1, 1997 in Colorado, and that if any members planned on attending, they may wish to contact him concerning a proxy to act on his behalf as regional representative.

5. Jon Stewart-Taylor requested assistance in preparation of a daylight astronomy presentation to ninety Reston-area residents on July 31, 1997.

Officers Reports:

Vice President Tilly Smith announced that next month Rob Landis will speak on "The Russian Space Program". The August presentation will be on "Solar Occurrences" by a speaker from the NASA Goddard Space Flight Center.

Bill Jensen, filling in for Secretary Pete Johnson, announced that the club had received a brochure on *Astronomy* magazine's Total Eclipse Cruise. He placed the brochure near the projector, for general reading. He also noted that club member Peter Gruber had a picture of Comet Hale-Bopp published in the July issue of *Sky and Telescope*.

The Observing Report

Jeff Stetekluh gave the observing report for June.

The Sky Tour

Craig Tupper conducted the monthly sky tour using the planetarium projector, concentrating on the Summer Triangle.

Questions

The members discussed questions concerning the combinations at the observing sites, off-axis solar filters and the difference between Mylar and glass solar filters.

June Presentation

Vice President Tilly Smith introduced Malcolm Neidner, who gave a presentation on the successful Second Servicing Mission for the Hubble Space Telescope.

The meeting was adjourned at 9:50.

Respectfully submitted,

Bill Jensen for Pete Johnson,

Secretary

Minutes of the June 11, 1997, Board meeting of the Northern Virginia Astronomy Club

The meeting was called to order at 7:40 p.m. at the home of President Brenda Jones.

Treasurer: Brenda announced that Ken Pettijohn has resigned as treasurer. In his resignation letter, Ken noted that Pedro Martinez was interested in taking the position. Brenda reviewed the NOVAC by-laws concerning officer termination. It was determined that the new treasurer must be elected and voted on by the membership. Jeff agreed to send out an e-mail notifying the membership of an election at the next meeting. It was also agreed that we should write a letter of appreciation to Ken for his outstanding service to NOVAC as treasurer.

Astronomical League: Lee Polikoff has volunteered to be the NOVAC ALCOR. Bob L'Hommedieu and Bill Jensen volunteered to help Lee.

The vote to remain in the Astronomical League was discussed. Jeff Stetekluh suggested that we write a letter to the AL describing NOVAC's concern with the organization. Brenda asked Jeff to compose a draft letter.

New Club Telescope: Brenda said that Gary Kwolek (Crockett park) was receptive to the idea of NOVAC building a permanent mount for the new club scope on park property. The desired location appears to be near the well where power is available. Storage space may be available in the shed. Brenda asked if someone would go look at the shed to determine if it is suitable for storing the telescope and equipment. Craig volunteered to checkout the facility.

Dark Sky Site: Craig said he had a conversation with a club member who has land in West Virginia with very dark skies. The site is over three hours from Washington. Craig and Pete had planned to go to the site one weekend but

Minutes of the June 18, 1997 General Meeting of the Northern Virginia Astronomy Club

The meeting was called to order at 7:30 p.m. by President Brenda Clements Jones. She welcomed 43 members and guests to the meeting held at the Arlington Planetarium.

Announcements

1. Brenda Jones announced that she had received a letter of resignation from Club Treasurer Ken Pettijohn. She announced that in gratitude for his 18 months of dedicated service to the club, she had a Certificate of Appreciation for Ken that would be presented at a later date. As part of Ken's letter of resignation, he nominated Pedro Martinez to serve as Treasurer. Ken noted Pedro's credentials included a bachelor's degree in accounting and his service as club auditor for 1996. Based on Ken's nomination, Brenda asked if there was any objection to holding an immediate election for the position of treasurer. Hearing none, Brenda asked for a second to Pedro's nomination, which was made by Jeff Stetekluh. She then asked for other nominations. There were none. She asked for a vote on the nomination, and Pedro Martinez was unanimously elected by the members present. Brenda welcomed Pedro to his new position as Treasurer of the Northern Virginia Astronomy Club.

2. Brenda reminded members that the observing schedule printed in the newsletter and shown on the club's web site should be strictly followed, in order to prevent the loss of privileges at the observing sites. She also reminded members not to share the combination of the locks with non-members, due to the club's liability in case of loss.

3. Brenda reported that Lee Polikoff, the AL coordinator was recovering from surgery, but

American Institute of Physics Bulletins Excerpts

(From) The American Institute of Physics Bulletin of Physics News, Numbers 324 & 326 June 4 & 18, 1997 by Phillip F. Schewe and Ben Stein

The earth has a companion in addition to the moon. The object, asteroid 3753, is in orbit not around the Earth but in concert with it in a horseshoe-shaped trajectory that co-rotates with the Earth in its orbit around the Sun. With respect to the sun, the trajectory is an eccentric ellipse somewhat inclined to the ecliptic plane. The discovery in 1906 of such an asteroid, 588 Achilles, near Jupiter, confirmed Joseph-Louis Lagrange's theory that planet-sun systems have

points (now called Lagrangian points) where a third object of negligible mass could reside in stable equilibrium. Many such captive asteroids have been since found near our planetary neighbors, but only two of them, Janus and Epimetheus (companions of Saturn) have horseshoe orbits.

Asteroid 3753, 5 km in diameter, was first spotted in 1986, but its trajectory was not understood until now with the numerical modeling research of astronomers at York University (Ontario) and the University of Turku (Finland). (Paul Wiegert et. al., Nature, 12 June 1997.)

A previously undetected stream of comets buffets the Earth. Apparently up to 30 comets per minute approach our planet, where they innocuously break up, releasing a river of water and organic compounds into the atmosphere. The trajectories of the comets are heralded by visible tracks observed by the Polar Spacecraft. Louis Frank of the University of Iowa reported this new finding at last week's AGU meeting in Baltimore. In 1986, Frank proposed that not only were tiny ice comets arriving in great numbers but that their cumulative cargo of water might have fully stocked the oceans.

Notices Notices Notices



Notices Notices Notices

NOVAC Notices and Benefits

Discounts on Sky & Telescope and Astronomy.

As a member of NOVAC you can get astronomy magazine subscriptions at a discount. To obtain *Sky & Telescope* for \$27.00 (instead of the standard \$36.00), make your check out to "Sky Publishing Co." for \$27. You can subscribe to *Astronomy Magazine* for \$20.00 (one year). Make your check payable to "Kalmbach Publishing Company". In each case, note on the check: "new subscription" or "renewal." If this is the first time you are renewing via NOVAC, please include your current customer number. Send your check to Treasurer Pedro Martinez, Jr., 6319 Anneliese Dr., Falls Church VA 22044.

The treasurer will send in the checks to Sky Publishing and Kalmbach once a month on the first of each month. To have your renewal included, be sure to have it in his hands by the last day of the preceding month.

You can also order any publication directly from Sky Publishing at a 10% discount. Just mention the Club Discount Plan and that you are a member of NOVAC.

There are no special 10% discounts offered on publications from Kalmbach Publishing, but read what follows.

Discount on Books

NOVAC is participating in the discount book sales program offered by Kalmbach Publishing. They will sell our members any astronomy related book in their catalog for 25% off the list price when we send in a group order. Nicole Mastej is coordinating the sales. If you are interested, please see her at a meeting or call her at home (703) 476-1207 to place an order. Make your check payable to "NOVAC" for the price of the book minus the discount when you place the order. We anticipate doing this 3 - 4 times a year if demand warrants.

Club Telescopes Available for Use

NOVAC makes available two six-inch (f/5) Newtonian reflectors for club members to check out free of charge and use for a limited time.

One scope is a Celestron model SP-C6 on a Super Polaris German equatorial mount and wood tripod. It will readily fit disassembled in any car, is easily transported, and can be set up quickly at remote observing sites. The scope comes with Orion Ultrascopic 10mm and Meade MA 25mm eyepieces with 1.25-inch barrel sizes.

The other scope is a home-made six-inch reflector on a Dobsonian mount and comes with a 25mm Kellner eyepiece. It is easy to transport to dark sky sites and easy to use.

To borrow a scope you will need to show your NOVAC observing pass and leave a \$500 (for the Celestron) or \$250.00 (for the Dobson) security deposit. To borrow the Celestron, contact Doug Mistler at (703) 437-0513; for the Dobson, contact Bob L'Hommedieu at (703) 978-0946. Note: Checks must be made payable to "NOVAC". Checks used as security deposits on telescopes are not deposited and will be returned to the originator when the scope is returned in the same condition it was checked out. The scopes may be checked out for two to four weeks at a time, depending on demand.

NOVAC Library

NOVAC has established a library at the Arlington Planetarium for use by NOVAC members. Books may be checked out and returned only at the monthly meetings. Members may check out books for one month at a time. To borrow books, see NOVAC Librarians Pedro Martinez or Craig Tupper at the monthly meeting.

The NOVAC library seeks book donations to the library. If you have any astronomy books or materials you are thinking of discarding, please consider a donation to the NOVAC library.

A complete list of all library holdings is available upon request.

NOVAC Observing Schedule for 1997

Observing at Savage Farm, C.M. Crockett Park and Nichlason site: see the back cover of this newsletter.

Observing at Parsells Field: any evening.

General Membership Meetings

General Membership Meetings are held at the Arlington Planetarium, 1426 N. Quincy Street, Arlington, VA, on the third Wednesday of every month. To reach the Planetarium, take Interstate 66 to exit 71 West, North Fairfax Dr. (Rt. 237). Go east on Rt. 237 to the 5th stoplight, N. Quincy Street (about 0.8 miles). Turn left onto N. Quincy Street (at the funeral home). Go 6 blocks (about 0.5 miles). The planetarium is the low white domed building on the left.

Trustee Meetings are held the Wednesday before the week of the General Membership Meeting. Non-trustees interested in attending should contact a club officer or board member for further information.

NOVAC On-line

NOVAC maintains an e-mail mailing list. Messages sent to the list include reminders about scheduled observing sessions, announcements for unscheduled sessions, requests for quick observing session summaries, MIR observability predictions, etc.

For more information, send a message to Chewning Toulmin, pct@his.com.

NOVAC Observing Site Rules

C. M. Crockett Park: Any night that NOVAC observes at Crockett Park, the observing session will be open to the public. The gate will be locked and will not be unlocked unless a NOVAC member enters the park, at which time the gate should remain unlocked until 10 o'clock (or some other prearranged time) when the Assistant Park Manager will come out and ask members of the public to leave. The gate will then be locked and should remain locked

(Continued from page 10)

through the rest of the evening. NOVAC members may remain until they are finished with their observing session. There is now a 2-week lead time requirement for permission to observe at Crockett Park on nights other than those listed on our schedule at the back of this newsletter. Gary Kwolek recommends that anyone interested in observing in that area on unscheduled nights drive out to the Crockett Park gatehouse, turn left and drive down to the cul-de-sac where you can set up your telescope on the public road.

If any NOVAC member out observing at Crockett Park notices any member of the public violating park policy, he or she is requested to notify the Assistant Park Manager, who lives in the house adjacent to the end of the parking lot. During EDT, set up on the large field to the left. During EST, set up on the paved cul-de-sac 200 yds. past the gate. No loud radios, alcoholic beverages or loose pets. Do not leave trash or debris behind. We are guests of the park; park management may revoke our observing privileges at any time due to the carelessness of one person.

Parsells Field: In addition to scheduled nights, NOVAC members may observe at Parsells field ANY evening, with no prior notice. You must park and set up only in the parking area: do not go onto the field itself. Please park to the left, near the entrance and set up to the right, away from the entrance. The usual NOVAC observing site rules apply: no loud noise, alcohol, or loose dogs, and pick up after yourself. We are guests of the Dulles Little League, and could have our access to this site revoked at any time if it is abused.

Savage Farm Site: The Savage Farm site is reserved for NOVAC use on the same nights as Crockett Park plus all the major meteor showers. For non-scheduled observing sessions, call the park manager, Paul McCray, at (703) 729-0596 at least 24 hours in advance and leave a message with your phone number. You may use the site for that session unless you receive a call from Mr. McCray stating otherwise. No loud radios, alcoholic beverages or loose pets. Pick up after yourself and do not leave any trash behind. Make sure the gate is locked whenever you are in the park, and when you leave. We are guests of the NVRP and could have our access to this site revoked at any time if it is abused.

Nichlason Site: The same rules apply as for the Savage Farm Site except that in seeking permission to use the site for non-scheduled observing call Smokey Jacobs (Northern Virginia Regional Park Authority) at 703-250-9124 and follow same procedure as with Savage Farm Site.

Directions to NOVAC Observing Sites

C. M. Crockett Park: From the Washington DC/Northern Virginia area, go west on I-66 21.7 miles from I-495 to Exit 43A in Gainesville onto Rt. 29 South toward Warren-

ton. After 11.8 miles on Rt. 29, stay left (towards Culpeper), to bypass Warrenton (but still on Rt. 29 S.) Go about 1 mile to Rt. 643 exit, Meetze Road. At top of ramp, turn left to go East on Rt. 643. Go 7.5 miles on Rt. 643. Watch for the C.M. Crockett Park sign on your right, and turn right into the Park Entrance Road. Once on the park entrance road, go one-half mile to the park gate.

Parsells Field: From the Northern Virginia area go West on the Dulles Toll Road until you reach Route 28. Go North on Rt. 28 for 2.8 miles to Route 625, Waxpool Rd. (You may also take Route 7 West to 28, then go South to Waxpool). Turn left on Route 625, Waxpool Rd. (!), and go about 1.4 miles (through the Broadlands development), then turn left onto Waxpool Rd. (!!), which is then a gravel road. The field is about 200 yards ahead. Once on the gravel, you will need to continue straight ahead on a drivewayish road, rather than bearing right and continuing on Waxpool. Note that the field itself is currently undergoing refurbishment, so there are no signs marking it at this time.

Savage Site: Use some combination of Routes 7, 267 (Dulles toll road), and 28 to get to the Route 7 Leesburg bypass. Go around Leesburg on the bypass until you reach "regular" Route 7 again. From the intersection of the bypass and "regular" Route 7, continue on Route 7 west 18.5 miles to Route 601, at the top of Snicker's Gap.

Turn left onto Route 601 south and go 2.4 miles to the park entrance. The park entrance is past the driveway on the left whose gatepost reads *Ben Lomand*. The park entrance is the next driveway on your left. There will be a sign on a tree saying *Wildlife Sanctuary*. If you come to gateposts on the left that say *Belle Allee* and *Ball Alley 1875*, you have gone too far.

You may also take I-66 west to Route 17 North. Stay on Route 17 North until it intersects with Route 50 at Ashby Gap. Turn left onto Route 50 and go 1.0 mile and turn right on Route 601. Continue on Route 601 (Blue Ridge Mountain Road) and go two miles past the main gate of the FEMA installation. Turn right at the park entrance after passing the gateposts with *Belle Allee* and *Ball Alley 1875* on your right.

The park entrance on Route 601 is marked by a small brown and white NOVAC sign. The neighbors periodically pull up the sign, so it may not be there. As you turn into the park, go straight ahead until you reach the gate, which is secured by both a keyed padlock and a combination lock. These locks are located to your left behind the gate as you face it from the outside. The combination is on your NOVAC observing pass. **Always** lock the gate behind you. The NOVAC lock **must be locked to the keyed lock, not to the chain**, to allow emergency access by the fire department. Drive to the observing area (the stone patio next to the house). There is very limited parking at the ob-

servicing area itself, so please park in the parking area on the right as you face the patio.

Nichlason Site: I-66 to Rt. 7100 (Fairfax County Parkway) south to Ox Road (Rt. 123) south to second right on Chapel Road to immediate left onto Wolf Run Shoals Road (Rt. 610). Continue on Wolf Run Shoals Road (watch signs carefully at twists and turns in the road) for 3.9 miles to the site. It is immediately after a yellow house with white picket fence on the right. Nichlason Site is on the left marked by "Wildlife Sanctuary" signs on utility poles. After third "Wildlife" sign there is a dirt/gravel lane into the site.

From Springfield/Burke area: go north on the Fairfax County Parkway (Rt. 7100) to left onto Burke Lake Road. Burke Lake Road becomes Clifton Road just after the intersection with Rt. 123. Continuing on Clifton Road, turn left at the Citgo station onto Wolf Run Shoals Road. Follow Wolf Run Shoals Road as above to site.

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NOVAC members are invited to submit articles for publication in the *NOVAC Newsletter*. The editor reserves the right to edit all materials submitted.

Article submissions, in ASCII please, may be sent to Elliott Fein at edfein@cpcug.org, or to Elliott's address in Rockville, given above. Questions? Call (301) 762-6261, or send e-mail.

Deadline for submissions is three weeks in advance of publication, e.g., June 10 for the July/August Newsletter

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1997 NOVAC Observing Dates (Subject to change)

C.M. Crockett Park

July 4, 5, 25, 26, 27 and 28 (Southern
Delta Aquarid meteor shower)

August 1, 2, 8, 9, 11 and 12 (Perseid
meteor shower), 29, 30

September 5, 6 (NOVAC Telescope
Meet), 26, 27

October 3, 4, 21 (Orionid meteor
shower), 24, 25, 31

November 1, 17 (Leonid meteor
shower), 21, 22, 29

December 13 (Geminid meteor shower),
19, 20, 22 (Ursid meteor shower)

Savage Farm & Nichlason Site

July 4, 5, 6, 25, 26, 27 and 28 (So.
Delta Aquarids)

August 1, 2, 3, 8, 9, 10, 11 and 12
(Perseid meteor shower), 29, 30,
31

September 5, 6, 7, 26, 27, 28

October 3, 4, 5, 21 (Orionid meteor
shower), 24, 25, 26, 31

November 1, 2, 17 (Leonid meteor
shower), 21, 22, 23, 28, 29, 30

December 13 (Geminid meteor shower),
19, 20, 21, 22 (Ursid meteor
shower), 26, 27, 28

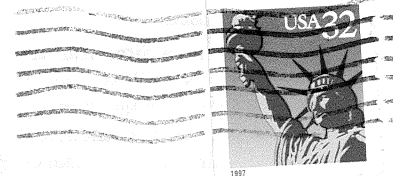
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