NOVAC

The Newsletter of the Northern Virginia Astronomy Club

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The star is not extinguished when it sets
Upon the dull horizon; it but goes
To shine in other skies, then reappear
In ours, as fresh as when it first arose.
- *Horatius Bonar, Life After Death*

1991 Membership Renewal

It's dues time again! If the **expiration date and amount on the cover page** of the newsletter are **highlighted in red**, the **Treasurer must receive your dues before April 30, 1991. Otherwise, this will be your last newsletter!!** Try to keep your membership current and send in your dues today!

Upcoming Events

by George Uhl

Friday & Saturday, March 8 & 9: Observations at C.M. Crockett Park

Monday, March 11: Executive Board Meeting, 7:30 - Al Schumann's house

Friday & Saturday, March 15 & 16: Observations at C.M. Crockett Park

Wednesday, March 20: General Membership Meetings at Arlington County Planetarium

Friday & Saturday, April 5 & 6: Observations at C.M. Crockett Park

Friday & Saturday, April 12 & 13: Observations at C.M. Crockett Park

Wednesday, April 17: General Membership Meetings at Arlington County Planetarium

Programs At NOVAC Meetings

by Brent Archinal

Once again, our last two meetings had some excellent presentations. Tom Willmitch, the assistant director of the Arlington Planetarium, started off our year (and decade) right with a well received talk in January on "Photometry". Next, Herschel Payne and Gerry Wolczanski gave a memorable presentation on mirror making at the extremely well attended February meeting.

For our upcoming meetings, we plan on switching gears a little by moving from such "how to" and equipment oriented topics to discussing some things that should concern the Northern Virginia Astronomy Club as a whole. This also fits in with some limited discussion we will be undertaking at the next few regular meetings as we work toward approving Articles of Incorporation and (new) By-Laws for NOVAC (see associated article).

Al Schumann will be the main speaker for our **March 20** meeting. Al has dived into the "official NOVAC slide collection" and pulled out a general slide show on NOVAC itself. Not only will he be showing the various activities of NOVAC and amateur astronomers in general, but giving us a good overview on the kinds of objects amateurs can observe and even photograph. The plan is to make this particular set of slides available to members for use in putting on shows about NOVAC and amateur astronomy when requested to do so by various groups. So come on out and take a look at what Al has put together - he'd certainly like further suggestions and contributions of various slides on additional subjects. If you remember Al's last show a few months back on his new backyard telescope pier, you know you won't want to miss this presentation!

"**Light Pollution**" will be the topic of the **April 17** meeting, with Bob Bunge

What's Inside

providing the information on a topic of great concern to amateur astronomers (and a topic that should be of great concern to the public in general). Some of you may have met Bob at the February meeting, when he brought his nearly completed 12" telescope. He has recently moved to this area from Ohio, and is certainly a well known amateur astronomer, having contributed many articles to the likes of **Deep Sky**, **Telescope Making**, **Astronomy**, and **Sky and Telescope** magazines. Bob will be covering various topics connected with light pollution, including the various types of light pollution, strategies in dealing with light pollution (including some with which he has had success in central Ohio), and the various types of lighting fixtures (good and bad) that are available. He'll also be providing information on the International Dark-Sky Association (IDA). At the conclusion of the program, we'll try to spend some time just outside the planetarium as Bob gives us a tour of the lighting and problems even in that area. This will really be an excellent opportunity to learn about this important topic, and perhaps begin to consider ways in which NOVAC and the public in general can contribute towards solving this problem in this area.

These regular meetings of the Northern Virginia Astronomy Club are currently held the third Wednesday of each month at 7:30 PM, at the Arlington County Planetarium, 1426 N. Quincy Street, Arlington, VA 22207. Admission is free and open to the public. Call the NOVAC hotline (703-256-8395) for schedule changes, cancelation, or leave a message to obtain further information.

Articles of Incorporation and By-Laws for NOVAC

by Brent Archinal

Anticipating that NOVAC will be attempting to obtain non-profit corporation status this year, at the beginning of the year I drafted a proposed set of Articles of Incorporation and By-Laws for NOVAC. These documents would eventually need to be adopted by NOVAC, in effect reorganizing NOVAC by replacing our current Constitution and By-Laws. This would allow us to use the Articles to incorporate as a not for profit corporation in the state of Virginia, and then to apply for recognition as such from the Internal Revenue Service.

Copies of these documents have been distributed at the January executive and regular meetings, and the February regular meeting. Currently comments (preferably written) are being solicited on them so that at the March executive committee meeting on March 11 we can update them to better reflect the club's wishes. If you have already received a copy, please let me have your comments by then. If you have not been able to attend our meetings and do wish to receive a copy, please let me know and I'll mail you one immediately. We decided not to distribute the early drafts of these documents generally in order to hold down printing and mailing costs.

A final or nearly final version of these documents should be ready by the April or May regular meeting, at which time we will likely take a vote on whether to submit them to NOVAC as a whole for approval. The Articles will eventually be adopted after a certain number (yet to be specified - say 40 or 50) of members sign them. The By-Laws will be adopted later after approval at a regular meeting. Following this schedule, we should then be able to complete the necessary Virginia and IRS applications in the late Spring or early Summer and then submit them appropriately.

In any case, please give me a call or drop me a line if you would like current copies of the proposed documents, or have any comments, or would like to help in this whole process.

This Must Be The Place

(or Directions to C.M. Crockett Park)

by Al & Lynn Schumann

We have a number of new members on board, so it's about time for one of our periodic reiterations of how to get to our observing site at Crockett Park.

From the Washington D.C./Northern Virginia area, go west on I-66 to the Manassas exit, 234 SOUTH. Continue on 234 until reaching Route 28--turn right. (If you are familiar with the area, there is a little short cut to Route 28 just past the "Po Folks" restaurant in Manassas. It goes past the IBM plant and saves about a mile.)

Once on Route 28, keep going straight through Prince William County. You will drive through Nokesville, passing the 7-11 on the left (a good landmark to remember, especially after freezing your gizzard for half the night. You may need something to warm you up on the way home. Even more importantly, they sell gas there when all other stations are closed for the night). After crossing the Fauquier County line there are about six miles to go. You will drive through the sleepy little hamlets of Catlett and Calverton. After you cross over the railroad tracks in Calverton, you only have a few miles to go, thus you should start paying attention to where you are driving. Make a right turn on 643. CAUTION: the first 643 sign to come into view goes only left--DON'T TURN THERE! Continue for about a mile, and there is another Route 643 going right (to Warrenton). There is a small country store (Mayhugh's) on the corner of the intersection. Turn right on 643 and proceed about a mile. Look for a small sign for C.M. Crockett Park on your right. Go about 100 yards and turn left. There will be a sign indicating "Dead End .5 miles". The park gate is at the end of the road. We suggest you get there before dark the first couple times. If it is dark, turn off your headlights when you stop at the gate.

There are a number of locks on the gates; one of them is ours. It is a combination lock which was thoughtfully provided by Al Boldt. The combination is 1961. Undo the lock, swing open the gate, drive through, stop, swing the gate closed, replace the lock and ease forward once again. We suggest you turn off your instrument panel lights at the gate to help you see better in the dark. Also, if you are unfamiliar with the area, we suggest you get out of your vehicle and walk down to the parking lot to see where other observers are located. Then drive into an open spot, unload and have at it.

Just a note in passing. You might go through all of the above procedures only to find that the park is empty! This happens. There have been any number of times when Lynnie and I shared company with naught but the north wind and the frost. But, hey, it's all part of being an amateur astronomer.

Oh yes, if you decide to go there when its not an official club observing night, you must call the Park ahead of time to let them know you're coming. The number is (703)788-4867, ask for Roger or Gary. If you get the answering machine, leave a message and a number where you can be contacted.

Astronomy Book Review
by Bill Burton

Planets and Perception, by William Sheehan, University of Arizona Press, 1988, 324 p.

This book is written by a young amateur astronomer who practices medicine "in real life" in Minnesota and whose special interest is the psychology of perception. He begins by giving a brief overview of the history of planetary and lunar observation since the invention of the telescope in Galileo's time, and discusses the visual interpretations of the Moon and planets by early pioneers such as Huygens, Cassini, and the lunar mappers Beer and Madler, as they dispelled many of the old myths about what other worlds were like.

The book's main focus, however, is on the history of observations of Mars, particularly during the golden age of the great refractors in the late 19th and early 20th century. This period witnessed the momentous "discovery" of "canals" on Mars in 1877 by Giovanni Schiaparelli of Italy and the great controversy that ensued. Schiaparelli was such a famous and highly respected planetary observer that he convinced many other observers that these canals existed, including a young, Harvard-educated but self-made astronomer from Boston named Percival Lowell. Lowell became the most outspoken believer in Schiaparelli's canals and fashioned an intelligent civilization of Martians to explain their existence. At his observatory in Arizona he sketched these geometric features on Mars during opposition after opposition. Although there were skeptics all along, including E.E. Barnard of the Lick Observatory and E.M. Antoniadi of France, the concept of Martian canals survived well into the 20th century and was not decisively disproven until the first spacecraft imagery in the 1960's.

The subtext of this story and the focus of the author's true interest is the great debate that occurred over this period concerning the factors that influence resolution of planetary features in a telescope. It was felt by some that the benefits of larger apertures could be outweighed by other factors. Lowell thought that larger-aperture telescopes were disproportionately handicapped by bad seeing, and advocated the use of diaphragms or masks. He felt that his 24-inch refractor stopped down to 18 or even 12 inches could resolve greater planetary detail than Antoniadi's 32-inch instrument in France! Failure of others to see the canals, in Lowell's mind, could be ascribed to inferiority of atmosphere, optics, or even the human eye. Sheehan also talks about the suggestibility factor: that because the canals are supposed to be there, a believer in Martian canals sooner or later sees them. Ultimately, however, he ascribes their presence in the observations of Schiaparelli, Lowell, and others to the penchant of the human brain to draw geometrical relationships where none exist, particularly under the conditions of momentary glimpses that planetary observers commonly experience.

This is an entertaining and informative book. I recommend it for those interested in the history of astronomy as well as those of us who spend much time observing the planets.

What's Up Doc?
by Al Schumann

I don't know about you, but sometimes the mental gymnastics required at the telescope drive me crazy. Inverted images and mirror images can make an easy job difficult, especially when I'm cold, hungry and tired out there.

I usually set up my office on the tailgate of the truck with the telescope not far away. After a look at the charts I have a clear idea of what I what to see, and I turn to the scope with great confidence. Unless the object is nice and bright, a peek through the finderscope or eyepiece changes that confidence to a mixed up muddle. Sometimes I ricochet back and forth from tailgate to telescope several times before I get the picture. What's up? What's down? What's really left and right?

I know you can buy an Amici or a porro prism to give a correct image, but, aside from the money, there's a price you also pay in a loss of light transmission. Under less than pitch dark skies that might be too high a price to pay.

Trying to balance charts in my lap at the telescope hasn't been very successful either. That is, until Astro Cards. These 3X5 index cards have been a

blessing for a novice like me. Small enough to stick in a shirt pocket or rest on the tripod, they still have sufficient detail to let a star hopper reach most destinations. The sets of cards are indexed by constellation and R.A. order. The objects on each card are identified by catalog number, R.A., declination, magnitude and object type. Each card highlights one or more deep sky objects, and there are usually a sufficient number of fairly bright guide stars showing the way to the target.

Astro Cards are put out by the same folks who publish The Observer's Guide. They come in packages of 75 cards per set. Individual sets cover the Messier catalog, fancy double stars and a few sets for selected NGC objects; one of which is for large telescopes.

If you are the type observer who makes a plan at home before going out with your telescope these cards could be just the ticket. One chart showing the big picture and a couple dozen cards in your pocket are all you need for a night's work.

If interested, drop a line to Astro Cards, P.O. Box 35, Natrona Heights, PA 15065. Ask for their free catalog.

March/April Sky Sweep

by Kevin Jones

Hello observers, I seem to have taken a mental siesta this last month and haven't prepared a new March-April Sky Sweep. Sorry about that, but here's a reprint of a previous Sky Sweep for the months of March and April. Trust me, the objects are still there and look as good as ever!

In March and April evenings, the impressive winter Milky Way is setting in the west earlier and earlier, and the regions which are star-poor but galaxy-rich are approaching the meridian. Some of the open clusters and nebulae of winter do linger long enough for some good intragalactic observing early, however.

After taking that first quick peek at Jupiter, nudge the telescope over a couple of degrees to the open cluster M35 in Gemini. This cluster is visible in binoculars and is an excellent target for telescopes. In telescopes, another small and rich cluster may be visible in the same field, NGC 2158. This cluster is 11th magnitude and will most likely not be resolved into stars (the brightest stars are 16th magnitude).

Higher in Gemini is the bright planetary nebula NGC 2392, more commonly known as the Eskimo Nebula. This 8th magnitude nebula has a sizeable disk, 2/3 of a degree across and a 10th magnitude central star. On dark and steady nights an outer ring of nebulosity may be glimpsed (the Eskimo's "parka") giving the object (with some imagination) the appearance of an eskimo's (or a bundled up observer's) face.

Moving still higher in the sky and into Cancer, you will encounter the Beehive cluster, M44. This cluster is easily visible with the naked eye from a reasonably dark site and is impressive in binoculars and finders. Telescopes show too small a portion of the cluster to be useful. After taking in the Beehive, move a few degrees southward to find the smaller and fainter cluster M67. This 8th magnitude open cluster is often overlooked due to its proximity to M44. M67 is one of the oldest open clusters known, similar to the ancient cluster NGC 188 in Cepheus.

Now for some extragalactic observing. The pair of galaxies M81 and M82 in Ursa Major are best placed for observing in the evening during this time of year. They are located about 20 degrees toward the zenith from Polaris in March and April evenings. M81 is a beautiful spiral galaxy on photographs, but through the telescope no swirling spiral arms should be seen, since they have an extremely low surface brightness. Its companion, M82, is an odd galaxy; it is undergoing a burst of star formation near its nucleus and material is being ejected from the galaxy at high speed. Through the telescope it sometimes appears mottled, due to its thick dust lanes.

Moving to the other end of Ursa Major, the Whirlpool Galaxy, M51, is encountered. It has a small lenticular companion galaxy at the end of one of its spiral arms. Through a large telescope, the spiral arms are conspicuous, giving M51 a strikingly Whirlpoolish appearance.

The galaxies in Leo can not be overlooked. M65 and M66 form a nice pair below the tail of Leo, and spiral structure can be detected in M66 on steady nights. In larger scopes the pair is expanded to a triangle by the faint edge- on galaxy NGC 3628.

The M95-M96-M105 trio of spirals is located below the body of Leo, and the three galaxies are easily visible in telescopes as three mainly round and smooth fuzzy blobs. If you're really into observing fuzzy blobs, hop on over to the Virgo Cluster of Galaxies. You can be dazzled by the number of galaxies in that part of the sky. Hope to see you out observing!

The CRRES Chemical Releases: Two Observations

by Bill Burton

Between the weather, cancellations due to a "bad" magnetosphere, and simply looking in the wrong direction, I consider myself fortunate to have finally seen two of the high-altitude chemical releases by the CRRES satellite. (I've called the Huntsville, Alabama number so many times that the voice on the recording is as familiar as my own father's.) One observation was of a lithium cloud on Jan. 13 and the other of a barium cloud on Feb. 16. Both releases were observed with 11x80 binoculars from Reston, VA.

The lithium release I saw began at 2:05 am EST at an altitude of about 28,000 km, which turned out to be high overhead. First I saw a bright red star, mag 1 or 2, which quickly began to expand and fade. Raising the binos to my eyes I saw a bright deep-red disk with a brighter yellow-to-white star-like core. The rapid expansion of this disk made it appear like a speeded-up movie of a planetary nebulae being born. After 10 seconds it was approximately one-half the diameter of the full moon and had faded to naked-eye invisibility, and the stellar core had disappeared. At this point the lithium cloud was obscured by a regular cloud for 20 seconds, after which nothing was visible to binoculars. Needless to say, this was a brief and unusual apparition.

The Feb. 16 barium release offered quite a different spectacle. Occurring at an altitude of 33,000 km, it also began as a bright stellar object in the skies east of Orion. In binoculars it quickly expanded into a bright pale-green disk containing a brighter outer ring which continually faded as it expanded. Within the first minute of the release the ring was bisected by a N-S trending bar-like structure which expanded along with the disk and remained brighter as the disk faded. After about one minute the bar was the dominant structure, and soon thereafter became the only visual feature. Over time it steadily lengthened in a north-south direction and after 8 minutes was still visible to the naked eye in the light-polluted skies of Reston. I stopped continuous observation after 15 minutes (it was cold!), at which time the release had become a long, faint streak spanning about 4 degrees of arc in the binoculars. A final check at 25 minutes after release showed the streak to be very faint and half again as long.

Now, with these two observations under my belt I can finally relax, and look forward to more sleep at night and a cheaper phone bill.

New Features on Jupiter
by Bill Burton

The 90-91 winter marks another opposition period for Jupiter, and I was ready for it this time with a newly-bought, "pre-owned" 8" f/7 Newtonian reflector. Not to be outdone by the spectacular show of its ringed neighbor this fall, Jupiter has come up with a few surprises of its own, including a full-blown South Equatorial Belt and a more interesting Great Red Spot. I have been fortunate to study these features, which result from the laminar and turbulent flow of Jupiter's thick atmosphere, with increased image contrast of my new telescope. Sketches based on some of my recent observations are shown in the accompanying figure (on page 6); compare these features with those visible during the 89-90 opposition (NOVAC Newsletter, July/August 1990).

The most striking new feature is certainly the South Equatorial Belt. Virtually absent in the opposition of a year ago, the SEB is now a broad band that stretches across the equator to nearly merge with the North Equatorial belt (Fig. 1). It is a striking, tawny brown color in contrast to the darker charcoal gray of the NEB. With the aperture of my telescope one catches glimpses within the SEB of a wondrously complex internal structure. At some longitudes it has a conspicuous double-tiered structure at its more southerly latitudes (Figs. 1C, 1D,1E), which may in fact mark the merger of two separate belts. The Great Red Spot lies embedded in the northerly component of the SEB (Figs. 1B, 1D, 1E, 1F).

The Great Red Spot is more interesting than ever, and signs of its vortex-like motion can actually be seen. The GRS has a light-colored core and darker rim, and the SEB is slightly thicker on the preceding ("left") side of the GRS than on its following side (Figs. 1B, 1E). These two facts combined provide visual evidence for an anticyclonic sense of rotation: the GRS is like a giant, long-lived "anti-hurricane." Two satellitic white spots occur on either side of the GRS, one of which is elongate and may have grown in the past month (Figs. 1B, 1E).

The North Equatorial Belt is up to its old tricks, including projections, loops, and rifts. The white rifts have been especially conspicuous (Figs. 1A, 1C-F). These features appear to change slowly over time (compare the rift and projections in Figs. 1C, 1D, and 1E). Another recently spotted feature occurs in the South Temperate Zone, just south of the GRS. It is a latitudinally elongate dark feature which may represent the birth of a new belt (Figs. 1C, 1D, 1F).

With its ever-changing markings, large apparent diameter, and favorable position in the sky, Jupiter gets my vote for the most fascinating and viewable planet. Be sure to catch it this spring before it fades into the evening twilight.

Mark Your Calendar
by Al Schumann

Elsewhere in this issue are listed the observing dates for 1991. What follows are the dates of the general membership meetings scheduled for this year. Mark them on your calendar and make an effort to attend our monthly gatherings: March 20, April 17. May 15, June 19, July 17, August 21, September 18, October 16, November 20, and December 18.

Turnout for club meetings has been kinda sparse over the past couple years, and we would like to see additional participation. As a rule, the business part of the meetings is concluded in 30 mlnutes or less. After that, the floor is turned over to fellow members for a wide varlety of "Show and Tell" presentations of general interest.

It is disheartening when one spends a lot of time and effort setting up a

FIG. 1. Sketches of Jupiter at 210X. System I and system II longitudes given (see Jul-Aug NOVAC for explanation) as well as Universal times of observations. South is up.

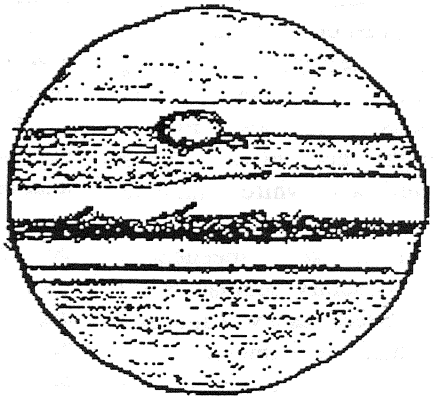
A.

I: 35
II: 246

3:20
1/2/91

B.

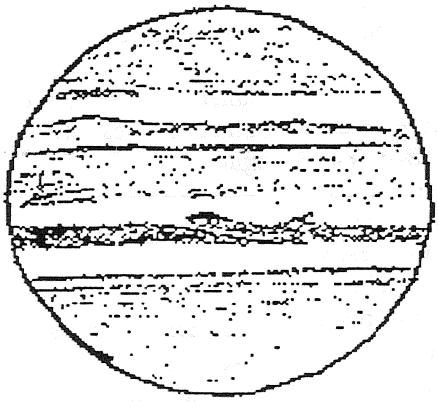
I: 287
II: 39



3:15
1/15/91

C.

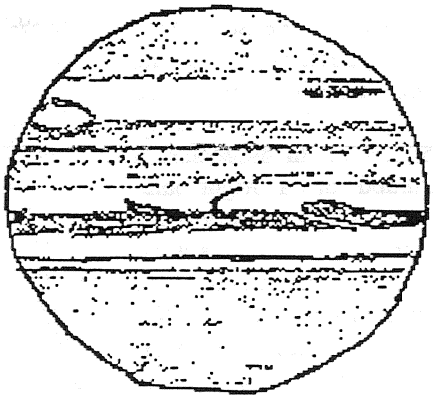
I: 96
II: 147



2:50
1/23/91

D.

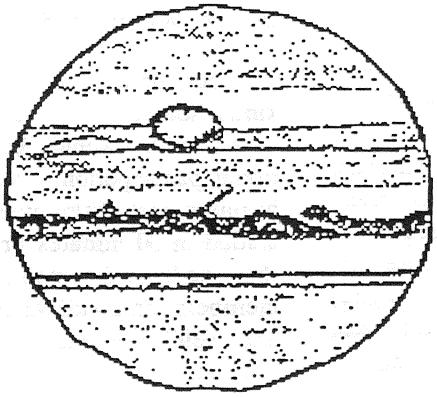
I: 57
II: 84



8:30
1/26/91

E.

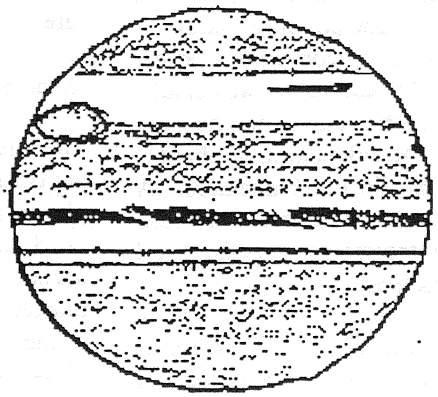
I: 66
II: 48



2:30
2/1/91

F.

I: 169
II: 76



1:30
2/11/91

program and presenting it to only a handful of people. So, mark those dates, and y'all come.

Outdoor Lab Open House
by Brenda Jones

The Arlington Outdoor Education Association is having an open house at its Outdoor Lab on Saturday, March 16. The gate will be open at 3:00 P.M. Plan to bring a picnic and take a hike on the trails at the Lab. Check out the classroom (the second building as you come in). It is filled with all sorts of wonderful things like green snakes, mice, salamanders, and flying squirrels among other things.

As the skies begin to darken, an Arlington Planetarium staff member will open the observatory and give you a look at what's up. You're welcome to bring your own telescope. Just a word of caution: the road beyond the gate is good for about 1/4 mile and beyond that it narrows and can be tricky (particularly during wet weather, right Herschel?). If you don't bring a telescope, or are bringing a small one, I would suggest you walk from the first building out to the observatory. I would estimate you'll have a walk of less than 1/4 mile along a lovely gurgling stream.

Directions: 66W to Rt. 29 south. Right at Rt. 600 just beyond traffic light. Left at Rt. 792. Take Rt. 792 (a gravel road) to entrance gate.

OBSERVING TIP: As you approach an observing site, of course most of you know to turn off your headlights and turn on your parking lights, but if you also turn off your dashboard lights you'll be able to see those telescopes ahead much more easily.

Foxcroft Observatory Star Party
by Brent Archinal

Larry Bohlayer, in conjunction with the newly forming Loudoun County Astronomy Club, will be holding an open house and star party at the Foxcroft Observatory, near Middleburg, VA on March 16 and April 13. NOVAC members are of course specifically welcome to attend. These sessions will begin at around 6 PM in order to allow telescopes to be set up in daylight, and will continue until at least fairly late in the evening if not all night.

I and several other NOVAC members and observers attended the first of these star parties on February 16 and were treated to some excellent skies and observing, as well as a barium cloud release by the CRRES satellite. As a description of the observatory and this site in general, the Foxcroft observatory contains a 10" combination Cassegrain/Newtonian reflector, originally by Starliner Instruments, but now as refigured by Roger Angel and with a Byers drive and mount. A 3" Warner and Swasey refractor transit circle is also mounted in the observatory. A concrete pad is available for setting up portable telescopes as well. The observatory itself is a roll-off roof (which has been fixed since its failure during opening at the February star party!) building in the middle of a fairly large open field. The best horizon is to the southwest, although there are some low trees and nearby lights in most directions beyond the field (however these are mostly shielded by the somewhat rolling terrain of the field). A nearby classroom building will be open and available for a meeting of the Loudoun Astronomy Club, general warming up, and restrooms. As to the general location, the observatory and school are situated some distance to the west of Dulles airport, almost at the northern extension of the Blue Ridge (actually quite close to Sky Meadows State park, another often used observing site). All in all, this observatory contains an excellent telescope and good facilities at a fairly dark sky site.

Directions to the observatory are as follows: a) From the Fairfax County area (e.g. I66), take US 50 west to Middleburg. b) Turn right at (only) light onto VA 626. c) The Foxcroft School where the observatory is located is 4 miles ahead on right. d) A guard at the entrance will provide a map of the grounds showing the location of the observatory and where to park.

For more information, contact Larry Bohlayer at Celestial Products (703-687-6881), Mouncey Ferguson (who is acting as a contact for the Loudoun County Astronomy Club (703-777-1013 home, 703-777-6795 work), or myself, Brent Archinal (703-448-7466 evenings).

Astronomy Day at NASM
by Geoff Chester

The National Air and Space Museum's Albert Einstein Planetarium is sponsoring an Astronomy Day on April 20, 1991. The hours are from 5:00 to 9:00pm and will include activities both inside the museum and on the west side terrace. Listed below are some of the activities that will occur.

- local astronomy club demos, both inside and outside (this involves setting up booths and telescopes)
- telescope set-up outside (weather permitting)
- sky lecture in Planetarium by staff
- costume contest with prizes
- general scientific astronomy experiments/demos
- showings of "Calling All Stars" in Planetarium
- docent and staff led tours of Space Hall, Planets, Stars, Looking at Earth, and Milestones of Flight.

If you are interested in participating, please contact Cheryl Bauer or Geoff Chester at (202) 357-1529.

Astronomy Overnight Class

by Bill Burton

Once again Bill Burton will be leading his NOVA (Loudoun campus) astronomy class up to Big Meadows campground in Shenandoah National Park for an all-night observing session under some of the darkest skies in Northern Virginia. The class will be Monday, April 8 at 7-9 P.M. and the scheduled observation Saturday, April 13. The cloud date will be Saturday, May 11. NOVAC members are welcome to bring their telescopes up to Big Meadows and help Bill reveal the wonders of the heavens to his students. Interested people may call him evenings at 703-860-0958 or at work at 703-648-6904.

NOVAC March Executive Committee Meeting

by Brent Archinal

The March Executive Committee Meeting of NOVAC will be held Monday evening, March 11, at 7:30 PM, at the home of Al Schumann. Please note that this meeting (and possibly future ones) will be taking place on a **Monday** night, a departure from our past practice. As usual, several topics of interest to most NOVAC members will be discussed. Our primary topic will be to consider more fully the proposed Articles of Incorporation and By-Laws.

As of March 1, two sets of comments have been received concerning them and we need to discuss these as necessary, as well as any other comments received by the time of the meeting. Hopefully we can come to agreement on a final or at least next to last version of these documents that can be put before the NOVAC membership for consideration. If you have any strong interest in these documents or would like to make any comments, we would like to see you at this meeting.

The secondary topic of major interest is further planning of NVTM'91. Part of this will probably be further discussion of plans that NVTM chairperson George Uhl presented in January. Finally, we may be planning for Astronomy Day activities on Saturday, April 20, when we have been invited to set up telescopes and/or displays at the National Air and Space Museum. And of course, besides these primary topics, our usual planning of the regular meetings and upcoming events will be occurring.

The Schumann's reside at 6121 Rivanna Drive, Springfield, VA 22150, phone 703-971-3257.

We hope you can make it - see you at the meeting!

January NOVAC Meeting Minutes

The meeting was called to order at 7:30PM wlth Al Schumann presiding. Eighteen members were present. The minutes of the previous meeting were accepted as printed in the last newsletter.

OLD BUSINESS: None.

NEW BUSINESS:

1. Brent Archinal reported on the effort to achieve non-profit corporation status. He distributed the proposed Articles of Incorporation and proposed new NOVAC bylaws. Brent solicited comments, additions and changes.

2. Bill Burton showed viewgraphs of recently discovered Comet Brewington. Brewington was found after perihelion and wlll not provide a very good show. It is about an 6.5 magnitude object and should dim rapidly as it moves away from Eartb.

3. Brent Archinal noted an upcoming occultation of a star by 11.0 mag. asteroid Kleopatra. The event will take place at about 12:14 AM on January l9.

4. George Uhl announced that many copies of the January/February issue of the newsletter were torn up by Post Office equipment during mailing and were not received by members. Accordingly, a special issue will be sent out early in February. Additional articles will be accepted until January 25.

5. Blaine Korcel raised the subject of nominations for the Board of Directors. The following names were placed in nomination for the five positions: George Uhl, Brent Archinal, Bill Burton, Kevin Jones, Brenda Jones and Herschel Payne. Volunteers and other nominations are welcome.

6. George Uhl moved that elections for the new Board of Directors be postponed one month because of mailing problems with the newsletter. The motion was seconded and passed. Thus, the current board will remain in office until the elections are held at the March 20 meeting.

The formal portion of the meeting ended at 8:05PM at which time Tom Wilmitch presented a very comprehensive lecture on photoelectric photometry.

Respectfully submitted,
Al Schumann, Secretary

February NOVAC Meeting Minutes

The meeting was called to order at 7:40PM with Blaine Korcel presiding. Thirty two members and guests were present. The minutes of the previous meeting were read and accepted.

OLD BUSINESS:

1. Blaine Korcel opened the floor for any additional nominations for the Board of Directors. No other names were placed in nomination. Elections for the new board will be held at the next meetlng, March 20.

2. Brent Archinal again solicited comments and suggestions relating to the Articles of lncorporation and new by-laws.

3. Steve Smith announced tbat the RCAS Observers' Handbooks have arrived. For those who have ordered them the books can be picked up at the planetarium.

4. George Uhl noted that the number of newsletters damaged by the post office was lower than expected. Therefore, a reprint and remailing was unnecessary.

NEW BUSINESS:

1. Brent Archinal reported on a recent Loudon County Astronomy Club observing session. The event took place at the Foxcroft School near Middleburg. Brent reported good skies, easy access and that it shows promise.

2. George Uhl announced that the deadline for the next newsletter would be February 22 for graphic work and March 1 for articles.

3. Brent Archinal noted that the Air and Space Museum will hold an Astronomy Day event on April 20th.

4. Brenda Jones sald there will be an observatory open house at the Arlington Outdoor Lab on March 16. Contact Brenda for details and directions.

5. Brenda Jones mentioned the FY 92 Arlington County budget and its severe impact on the planetarium. A number of people spoke to the budget working group in hopes of minimizing the damage. Among those speaking on behalf of the planetarium were: Brenda; Jim Sharp, Director of the Einstein Planetarium; Ralph Perrino from NOVA; Al Schumann and a representative from the Naval Research Lab.

6. The next meeting of the Executive committee will be held at 7:30PM. March 11 at Al & Lynn Schumann's house.

The meeting was adjourned at 6:05PM at whlch time Herschel Payne and Jerry Wolczanski gave a stunnlng presentation on mirror grinding, polishing and testing. Anyone who arrived thinking the process was fast, easy and cheap left the meeting considerably sobered.

Respectfully submitted,
Al Schumann, Secretary

NOVAC Tibits

by Bob Ridgley

Welcome to these new members:
- Richard Cowan
- Gerald Kassalow
- Charles B. Tichenor
- Keith Steir
- Stephen Ritger
- Ray Darling
- Philp Berwick
- John Mindzak

Membership as of 3/6/91:

Active Members	116
Past Due Members	4
Complementary Members	13
Total Members	133

Treasury as of 3/6/91: $2,003.21

NOVAC SIMPLIFIED FINANCIAL STATEMENT 1/1/90 thru 12/31/90

Income	
Dues, new memberships	894.00
Dues, renewal memberships	788.45
Sales at NVTM 1990	179.95
Interest	54.16
TOTAL INCOME	**$1,916.56**

Expenses	
Newsletter printing	327.31
Postage	191.00
NVTM handouts	149.92
Brochure printing	141.10
Purchase answering machine	94.04
Hotline telephone bill	85.48
NVTM banner	53.76
Fed tax on savings interest	18.60
Reimbursement to treasurer	18.00
Returned check(s)	18.00
BBS contribution(s)	5.00
Miscellaneous supplies	5.00
TOTAL EXPENSES	**$1,107.21**

Total income	1,916.56
Total expenses	1,107.21
NET GAIN	**$809.35**

Beginning Balance	539.92
Net gain	809.35
ENDING BALANCE	**$1,349.27**

by Robert E. Ridgley, Treasurer

Advertisements

For Sale, contact Jim Schaeffer at 476-5624 (home) or 281-6363 (office): CAPS, baseball type, mesh back, adjustable, NOVAC logo, $5.95 (you pick-up), $7.75 (UPS ship); JACKETS, nylon/satin, NOVAC logo on front & back, elastic at sleeves, neck, and bottom, very good quality, sizes S, M, L, XL, $34.95; TELRAD finders, $38.00.

For Sale, contact Bob Ridgley at 681-0286 (home) or 287-3441 (work): offical NOVAC logo tee shirts. Available in black or white, sizes: S, M, XL, price $9.95. All profit goes to NOVAC.

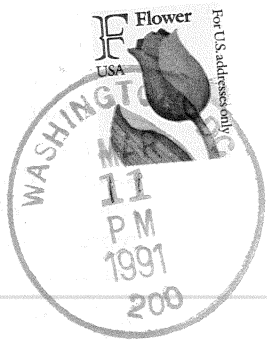
For Sale, contact Chuck Beighlea at 703-670-6291 (home) 703-769-6121 (work): Celestron Super C8+ (8" SCT) plus accys, 7mm Ortho, 32mm University Koenig, Meade RFA, Celestron LPR Filter, Meade Telecompressor, Celestron 1 1/4" 2X Barlow, dew shield, 12V Drive Converter, 8X50 finder, carrying case, asking $1000.

For Sale, 2045 Meade 4" telescope with all acc. including two eyepieces, metal case, telecompressor, camera adapter and documentation. All are as new condition. Asking $500. Call Herschal Payne 703-527-1010.

The NOVAC NEWSLETTER is published six times a year. Subscriptions are available through membership in NOVAC. Dues are $18.00 per year. For club membership information contact Al Schumann, Secretary, 6121 Rivanna Drive, Springfield, Virginia, 22150, telephone: 703-971-3257.

NOVAC

The Northern Virginia Astronomy Club
5401 Danville Street
Springfield, Virginia 22151



12/91 - $0.00

Bill Burton
2102 Whisperwood Glen Lane
Reston, Virginia 22091