

# NOVAC

THE NEWSLETTER OF THE NORTHERN VIRGINIA ASTRONOMY CLUB

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## President's Column

**Brenda Clements Jones**  
Have you gotten out to see our latest wondrous sky event, Comet Hale-Bopp? I hope you've been able to get yourself away to a dark sky site to see it. I've had fun watching it move further and further north just above the trees of Daniel Mountain, looking like a speed boat leaving a wide wake, on the weekends that allowed me to see the sky without those nasty clouds!

I hope you'll plan to help show this comet to the public! Pull out your calendars and mark down these dates. NOVAC has several events coming up to help the public view the comet:  
Saturday March 29 -- Crockett Park  
Monday March 31 -- U. S. Naval Observatory  
Tuesday April 1 -- U. S. Naval Observatory  
Saturday April 5 -- Sky Meadows  
Saturday April 12 -- Crockett Park

The two events on Saturdays, March 29 and April 12 are NOVAC's comet parties that we are holding in co-sponsorship with Crockett Park. This year we will just need to bring out our telescopes and binoculars since the Park has agreed to take on the responsibility of parking duties (thank you Gary!).

The events at the Naval Observatory on Monday and Tuesday, March 29 and April 1 are comet parties that we have been asked to help with by bringing our telescopes and binoculars.

*(Continued on page 5)*

## Confessions of A Night Sky Novice

**Michael Lux**

I'm a true novice when it comes to astronomy. For example, just twelve months ago I thought the Moon rose every night a short time after sunset and set around dawn. Whenever I did see the Moon in the daytime sky, I thought it was some kind of curious, interesting and unusual occurrence. The only star I could identify was Sirius, because it is the brightest, and never realized there is an even brighter "star": Venus. I hadn't a clue where to locate any of the planets or that they could even be seen with the naked eye.

With this in mind, I thought some of the readers of this newsletter (especially my fellow astronomical novices) might enjoy reading about the observing experiences of a novice turned addict in only twelve short months. Perhaps even some of you experienced folks might

*(Continued on page 2)*

## Upcoming NOVAC Meetings at the Arlington Planetarium

**Tilly Smith**

**Mar 19**

Starting Out In Astronomy:  
Where to go and What to do.  
Geoff Chester - Smithsonian

**Apr 16**

Comet Observing Reports  
NOVAC Members

**May 21**

Star Parties  
Bill Burton - Stellafane

**June 18**

Star Atlas 2000 Development  
(tentative)  
Perry Remakius  
N.B. See article on Page 3 re additional presenters.

## Inside This Issue

President's Column - Page 1  
Confessions of a Novice - Page 1  
Finishing the 7" - Page 3  
Dinner before the Meetings - Page 3  
Books of Interest - Page 4  
1997 Messier Marathon- Page 4  
U.S.N.O. Press Release - Page 4  
Treasurer's Report - Page 6  
Auditor's Report  
Minutes of Meetings - Page 8

## Confessions of A Night Sky Novice, continued

(Continued from page 1)

find my experiences a nostalgic trip down memory lane? Some of my observations might even rekindle some fond memories from your astronomical roots.

On my birthday night of February 2nd last year on the island of Grenada, (one week after purchasing my first telescope), I saw Venus and Saturn no more than one degree apart directly alongside each other, in a straight line, high above the Caribbean Sea.

At that moment of my first conjunction I was hooked instantly and swiftly. I actually went around pointing out the phenomena to all the other diners (all of whom being total strangers) in the hotel restaurant that had picture windows facing the sea. The fact that the planets looked like stars and not planets didn't matter. It was the concept that those two objects hundreds of millions of miles apart were residing alongside each other in full view blew my mind. I now know I love conjunctions, and doubt if I'll ever tire of them. But, of course, "There's no conjunction like one's first conjunction." And on my birthday to boot!

Unfortunately, since that eventful West Indies night, I've also discovered that the nighttime sky is more frustrating than not; and more cloudy than not, particularly it seems, in suburban Washington, DC. As a result, conjunctions, eclipses, meteor showers, and all the myriad of interesting and predictable astronomical events often remain hidden to our eyes no matter how much we may protest. Nevertheless, the show goes on with or without a viewing audience from our part of our pale blue dot we call Earth.

I've quickly learned that to enjoy this hobby, one must appreciate what sometimes works, such as occasional clear nights and actually finding what you're looking for! After all, wouldn't it become boring if every night provided us with excellent seeing? Would I appreciate and get as excited about a clear night as I do now in Mid-Atlanticville? Somehow, this sounds like the same misguided logic that suggests one needs to work to best enjoy and appreciate leisure time. Humbug! But, it is a way of coping with the seeing conditions that seem to prevail around here. In any event, clearly what I have most enjoyed about my new hobby is not unlike what I enjoyed about downhill skiing when I first took it up seriously, namely, I now look forward to the nighttime as much as daytime; just like skiing showed me how to look forward to the wintertime as well as the summertime.

This is no small accomplishment. Fun is now a 24 hour, 12 months a year outdoor activity. Next, I ask myself how can I avoid working and sleeping so I can take it all in?

Apart from weather frustrations, my first year of observing has provided me with many pleasures: the breathtaking sight of Hyakutake one mid-March night at Crockett; M13 through a 12" scope; the exciting and excruciatingly slow

reappearance of Io from behind the disk of Jupiter; and the large walled crater Clavius looking like some kind of lunar Halloween pumpkin face; to name just a few.

### Hyakutake

Regarding Hyakutake, I couldn't believe my eyes. I had been carefully observing this tiny cute fuzball for weeks from my Rockville deck, interestingly tracking its rapid progress across the sky each evening. And, here at Crockett it was **in your face** with a long tail as if suddenly and without warning it had blossomed overnight. A one hour and twenty minute drive had transported me, it seemed, to some other viewing planet other than Rockville's.

I thought, what would this thing look from a really dark site, if it looked so good from Crockett even with a near first-quarter moon? And, such a tail like you wouldn't believe. I even got fairly good slide images of the comet with a SLR camera mounted on a standard tripod, using 400 ASA film. (For Hale Bopp, I'm planning a photographic campaign of many nights duration, clouds willing.)

I have spent many enjoyable nights and early mornings at my 4" Celestron refractor, along with my binoculars. Some sights are easy to locate and so predictably pleasurable, like a favorite wine, always enjoyable but with few surprises (at least to a novice such as myself). Among these predictable pleasures for me: the Pleiades, Orion, the myriad of double stars, the majesty of Vega, to name a few. A close friend said to me: "Astronomy is interesting but what's such a big deal about looking at the stars, they're only points of light". To him and others like him I say, look to the Pleiades; they display more diamonds than even my wife, and the Pleiades cost me much less.

### Saturn

My first view of Saturn and its rings surprised me. First, the rings not only were obvious but appeared brighter than the planet itself. It's not even a challenge to see the rings. Novices, it's not a hoax, you can really see the rings through a small telescope. Wouldn't it be wonderful if Venus and Saturn switched locations so that Saturn could reveal her beauty up closer and personal. To me, tiny Saturn and its rings through the telescope look like a celestial Izod.

I am looking forward to the further tilting of Saturn's rings beyond their current five degrees. Until now, I cannot discern the Cassini division or any other significant differences in the rings' layers, as the view is close to straight on.

However, the two objects that have given me the most consistent pleasure and stimulation have been the Moon and Jupiter.

### The Moon

Ah, the Moon, that object that dims the light from the galaxies, nebulae, and other faint objects. What a nuisance the Moon is to most experienced hobbyists and big Dobsonian lug-

gers. But, to me, Mr. Novice, the Moon is a dead world of stark beauty, never the same from night to night and hour to hour. To me the Moon is the ultimate study in reflected light and shadows. As an outdoor and landscape photography enthusiast, I love to look at the Moon's contrasts and shadows. I'll never forget the first time I saw a central mountain peak reflecting its shadow on the crater wall behind it.

I even love viewing the Moon around Full through my scope. Sure, there is little contrast and detail at this time, but the Moon's brightness and milkiness reflect a kind of celestial Gestaltness that turns me on without fail. Through binoculars the full moon can be blinding; but through the scope (and especially with a natural density eyepiece filter) the Moon becomes the great bright light. And from whence comes this great reflected moonlight to 4436 Haverford Drive in Rockville? From the Sun, of course, invisible to the nighttime observer, like some kind of celestial lighthouse seemingly unconnected to its illuminee but whose work is clearly evident.

### Earthshine

And while we're on a photographer's favorite subject, reflected light, how about that Earthshine! Several nights before New moon one clear winter morning around 5:30 AM after the Moon rose above the trees that block my southeastern view; I saw the spectacular crescent Moon in about three-quarters or more of "darkness" and one-quarter or less in brightness. To the naked eye, a magnificent crescent. But through my scope, the Moon's mares clearly outlined and distinguishable in the black, thanks to Earthshine. Almost to the point, I might add, of exhibiting as much or more detail than the features located in the almost blinding bright part of the waning moon. The Sun's light reflecting off the Earth back onto the dark portion of the Moon facing away from the Sun is like a magical Tinkers to Evers to Chance light relay.

### The Waning Moon

I find the Moon as it approaches New particularly exquisite. Perhaps, it's the quietness and stillness of pre-dawn morning coupled with the freshness of a Moon that is but a couple of hours old. Maybe it's the feeling of accomplishment (getting out of bed), and that isolation and stillness as the rest of the world sleeps oblivious to the splendor above.

The twenty-five-day-old Moon reveals my favorite Moon shadows. One can see the Jura Mountains above the Sinus Iridium (Bay of Rainbow) casting their shadowy shapes onto the half-darkened floor of the Mare Imbrium. The shadow of each cliff clearly distinguishable from the others like some kind of surrealistic lunar Bryce Canyon. Furthermore, these fabulous shadows face no competition from any other lunar feature that night. They are striking and immediately noticed. The Sinus Iridium is

(Continued on page 5)

# Finishing the 7"

Craig Tupper

In the September/October 1996 newsletter I wrote an article about my introduction to telescope making. I was in the middle of making a 7" f/8.8 two-truss newtonian, a design that Bob Bunge has greatly influenced. Plans for a similar scope can be seen on the Web at <http://www.tiac.net/users/atm/ravne.html>.

Anyway, when I wrote that article I thought I was just around the corner from being done, having spent about 50-60 hours in design and manufacture. As usual, my estimate to completion was a bit optimistic. At the time that I wrote the article, I thought my mirror was well polished and ready for parabolization. Then Rich Kaiser showed me how to examine the mirror surface under magnification... WHAT were all those little pits still doing there? Some five hours of polishing later, they were gone, and I had maintained a good spherical shape.

Parabolization went much easier than I expected. The main reason for that was that with a focal ratio of f/8.8, the parabolized mirror differs little from a sphere, so it barely needed any parabolization to meet Rayleigh's criteria (1/4 wave error at the wavefront). After my first attempt, about 2 minutes of parabolizing, I took measurements as recommended by Texereau and found that the figure was about 1/8

wave. Another two minutes of parabolizing and I had about 1/12 wave. I pushed my luck for about another 2 minutes and found I was heading in the wrong direction: about 1/10 wave. I figured that I would leave well enough alone at that point, especially since this was my first mirror. I had the mirror coated with Beral by the good folks at Clausing, and I am very happy with their work.

The mechanical/woodworking and collimation parts of the project also held several unexpected challenges, but no show-stoppers. Finally, the scope was ready for first light. Of course you know what happened next: an extended period of nightly clouds and rain. But finally the break came, and I dragged it out to the front yard.

There really is something special about looking through a self-made scope for the first time. My first two objects were Saturn and the Trapezium in the Orion Nebula. The seeing that night was excellent, and the views confirmed what the Foucault tester had measured: Saturn was sharp, easily showing the gap through the rings and the shadow of the planet on one side of the rings behind it. Five of Saturn's moons were also visible, as well as six stars in the Trapezium, although the dimmest of all of these were averted-vision only and seen only about 50% of the time, when the seeing was best. I was very happy, since on the

best nights with my Meade 8" newtonian I have never done better than this.

The only real problem remaining was that I had not made a light shroud for this open-tube scope. I found out what happens when stray light from nearby porches, streetlights, etc., comes straight in your eyepiece: the sky looks orange! I could only observe with the scope in certain places in the yard, and pointing in certain directions. So, with my wife's help, I learned a new skill, how to operate our garage-sale-special Singer. After a trip to the fabric store and several more hours of design and sewing, the sky background was its usual suburban grey regardless of where I pointed the scope.

I finished it in October, I think, and showed it off at the next club meeting. The final cost was about \$210 and probably 80-100 hours of work. If you'd like to see it in action, look for me at Crockett sometime. And of course I'd be happy to answer any questions from prospective ATM's about my experience.

Happy grinding!

## ATTENTION NOVAC MEMBERS

Tilly Smith

The April and May programs are scheduled to be member-oriented programs. Both programs, Comet Observations (April) and Star Parties (May) provide NOVAC members an excellent chance to share information with their fellow members.

As a novice in the world of amateur astronomy, I am always interested in the technical speak-

ers from outside NOVAC. However, over the past three years, some of the very best programs, and the ones I remember the most, have come from our own members.

This year I plan to have several opportunities for our fellow NOVAC members to share their experiences and accumulated wisdom with the rest of the club. As this requires member participation, I need your support to make these NOVAC member programs the best they can be. In order to start to firm up the April and May programs, I would like to ask for any members that would like to share their comet

observations or star party trips to contact me. Since I will be on travel 1 Mar - 13 Mar, e-mail may be better than phone. Thanks for your help.

e-mail [smith\\_walter\\_t@hq.navsea.navy.mil](mailto:smith_walter_t@hq.navsea.navy.mil)

phone (w) 602-4752

(H) 920-1157

## Dinner Before the Meetings

Brent A. Archinal

Well, we survived our second anniversary of meeting for dinner before our regular meetings. The first such dinner was "way back" in February of 1995 - even before we'd ever heard the words Hyakutake and Hale-Bopp! Anyway, come join in and help us celebrate. Our next dinners will be before the regular meetings on Wednesdays March 19, and April 16. Those dates bracket quite nicely the apparition of what may be the brightest comet of the 20th century, so I'm sure we'll be able to find something to talk about! If you haven't been to any our dinners before, they're mostly just a good chance to meet your fellow members and amateur astronomers, without having to do so during the rush of a meeting or in the dark at Crockett Park. The place for dinner 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 apparently 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 metrorail 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, if the weather should turn extremely bad (remember January of '96?) I can let you know if we've decided to cancel. So if you know you're coming or if you need a ride to the meeting and back to the metro, or just want more information or directions, please give me a call (evenings) at 703-448-7466 or e-mail me at [baa@casa.usno.navy.mil](mailto:baa@casa.usno.navy.mil).

See you at dinner!

## Books of Interest

Steve Blake

Seeing Elliott's recent call for articles on books made me wonder if any members would be interested in getting copies of Luginbuhl and Skiff's *Observing Catalog of Deep Sky Objects*? This book, by Cambridge, is currently out of print, but I discovered that it can be ordered for only \$14.95 (plus \$3 postage) from Edward R. Hamilton, Falls Village, CT 06031-5000. (Published price was \$49.95.) Hamilton is a book dealer that specializes in out of print and remaindered books. I would not mind sending people who want the book a copy of the order form. I do not know how many copies he has left. For those unfamiliar with this hard-back book, it provides paragraph long data and descriptions of more than 2,000 deep sky objects. It has a few drawings/photos, but you will need a good atlas. The entries are arranged by constellation and are amazingly comprehensive -- for example, the Leo section runs 13 pages and discusses 135 objects, mostly galaxies, some as faint as mag 15. Phil Harrington in *Star Ware* calls this book an excellent resource for the intermediate or advanced amateur, i.e., folks who are a lot more experienced than me! (It will be some time, for example, before I try to locate the 30 globular clusters in M31 that are marked on the photo of M31 on page 17.) Fortunately, a book this comprehensive also talks about the bright stuff too. Perhaps some fellow NOVACer who has used the book more than I have could comment on the book as well. As I said, the price is good, the

book is out of print, and I will copy order forms for those interested. (Perhaps people could send me fax numbers or addresses.) Hamilton does not take orders by phone or over the net so you have to order the old fashion way. I have trouble making it to the meetings, but another option would be for me to send the order form and info to someone who will attend the next meeting and people could sign up then. That would save some money since the \$3 postage charge is the total Hamilton wants for any order. Anyone interested?

Steve Blake

P.S. I hope someone suggested Richard Preston's *First Light: The Search for the Edge of the Universe* as one of the great astronomy books of all time. Members might recall that TWO of the astronomers polled by S&T in its September 1996 issue recommended it as a book they would take to a desert island. Originally published in 1987, it has now been revised and is in many local bookstores. I also saw it in the Montgomery County library. The book is the story of the Hale telescope, the people who make it work, especially gadgeteer extraordinaire James Gunn and the scope's night operator Juan Carrasco, and the astronomers who use it, particularly the Shoemakers in their search for asteroids and Maarten Schmidt in his search for quasars. As the ads say, RUN don't walk to your local library or bookstore. (One caveat: there are at least two other books on the shelves these days with the words "first light" in the title. Accept no substitutes for the Preston book!) Steve

## The 1997 Messier Marathon

Jon C. Stewart-Taylor

Every year in mid- to late March and early April, it is possible to observe all 110 Messier objects in one all-night Marathon. This is not an easy feat, since you have to locate, identify, and observe approximately 10 objects per hour, racing to collect the western objects before they set, and then the eastern objects before dawn drowns them out, while battling fatigue. Why would anyone want to do this? Many Marathoners feel a sense of satisfaction at learning the objects well enough to be able to do it. You have a unique opportunity to observe and compare a wide variety of different objects in a single observing session. There is the added incentive of public recognition: all participants will receive a certificate and have their names published in the Newsletter and on the NOVAC website (<http://astro.gmu.edu/~novac/mm.html>). NOVAC will be holding official Marathon observing sessions at C. M. Crockett park on the evenings of March 7th and 8th, and April 4th and 5th. A checklist with all 110 objects in the suggested observing order is available on the NOVAC web site ([http://astro.gmu.edu/~novac/OnLineLib/mm\\_checklist](http://astro.gmu.edu/~novac/OnLineLib/mm_checklist)), via E-mail from me ([jstewart@tkblack.com](mailto:jstewart@tkblack.com)), and possibly at the Marathon observing sessions.

## U.S. Naval Observatory Press Release

February 11, 1997

Dr. Steven J. Dick 202-762-1438

Dr. Brent Archinal 202-762-1564

Dr. George Kaplan 202-762-1562

### Comet Hale-Bopp Arrives in Washington Skies

Comet Hale-Bopp, discovered in July 1995 by Alan Hale and Thomas Bopp, may become a very impressive object over Washington skies in March and April 1997. Unlike Comet Hyakutake last spring, Hale-Bopp does not pass close to the Earth; however, it is an intrinsically brighter comet and may provide a better show. The geometry of its orbit around the Sun favors observers in the northern hemisphere and, generally speaking, the observing opportunities increase with northern latitude. For the continental U.S., Comet Hale-Bopp will be visible low in the northeast in the predawn hours until the third week in March. After that it will appear low in the northwest after dusk. The best view of the comet will probably be the first week in April, although it will remain a fixture in the evening sky until mid-May, when it disappears in the Sun's glare. Comet brightnesses are very difficult to predict, so the visibility of Comet Hale-Bopp cannot be stated with certainty. The comet is already visible before dawn to people far away from city lights

who know where to look. During early March, the comet may be bright enough to be visible to early risers in suburban locations. By late March and early April it may exceed the brightness of Comet Hyakutake, and could become a striking object in the western sky after sunset, especially on Moonless nights. Whatever its ultimate brightness, the comet will best be seen in dark skies at remote country, mountain, or seashore locations. Only there will the full extent of the tail be visible. It's worth the trip! Hale-Bopp will be closest to the Earth (but still farther away than the Sun) on March 22. It reaches its maximum northerly point in our skies on March 24, and should reach its greatest brightness around March 27. It passes perihelion - when it is closest to the Sun - on March 31. Because the comet is predicted to stay quite bright for several weeks, and because a comet's tail often does not fully develop until after perihelion, the best view of the comet is likely to be the first week in April. The Moon does not interfere until April 8. The nucleus of Hale-Bopp may be about 40 kilometers in diameter, compared to one to ten kilometers for most comets. The nucleus is surrounded by a "coma" (the part that will be visible from Earth), and will most likely be accompanied by a longer and longer tail as it approaches the Sun. The nucleus of a comet, sometimes referred to as a "dirty snowball", is composed of dust and ice. Comets have also been found to be rich in organic molecules,

leading some to believe that life on Earth may have originated when one or more comets crashed into the Earth. Although comets have a reputation as harbingers of disaster, at closest approach to the Earth on March 22, there will be no danger to civilization; the dust and ice composing comet Hale-Bopp will not impinge on the Earth's atmosphere, nor will we pass through the tail.

At the U. S. Naval Observatory, astronomers plan to observe the comet with a powerful electronic detector known as a charge-coupled device (CCD), which might reveal structure in the nucleus. In conjunction with The Planetary Society, the Naval Observatory will also host a limited Open House on Tuesday evening, April 1, from 7-9:30 PM, at the USNO's Washington, D.C. Headquarters. Weather permitting, visitors will be able to view the comet through the telescopes of both the Naval Observatory and cooperating local astronomy clubs. The limited Open House will be held in cloudy or clear weather. The Master Clock of the United States, the Library and the Main Building of the Observatory will also be open to the public. Up to 500 visitors will be welcomed onto the grounds by advance ticket only, as part of the limited Open House. Ticket requests will be filled on a first come-first served basis. Please send a self-addressed, stamped envelope to Hale-Bopp Event, c/o The Planetary Society,

(Continued on page 5)

## President's Column, continued

(Continued from page 1)

Monday night will be the Observatory's regular open house during which a limited number of the public will be admitted. Tuesday night will be a comet party sponsored by the Observatory and the Planetary Society. Five hundred tickets will be issued for the Tuesday event. For our members who wish to help with either Observatory event, you only need to get your name on the list of those planning to help. Your name **MUST** be on the list that I will turn in to the Observatory on Friday, March 28. I will have the sign up sheet at the March meeting, or you may call me at 703-527-7963 or e-mail me at STARRRS@compuserve.com to get your name on the list. On these nights, enter the main (34th Street) gate. Ask to be directed to the heli-pad, where we will be setting up. April 5, Geoff Chester will be at Sky Meadows and would love to have you bring your telescope

or binoculars out to show the crowds the comet.

Since the comet will be setting early, plan to stay after to see what the sky is like from Sky Meadow! Geoff will be doing our regular NOVAC program in March, too. I'm looking forward to that!

April 12 is Astronomy Day. What better way to celebrate than to give the public one last look at Comet Hale-Bopp! I hope that you'll be able to attend several of these activities. The club needs your help! Plan to arrive for all events well before sunset.

NOVAC has a new project that will help us bring astronomy to the public's attention and at the same time help George Mason University students get more from their astronomy classes and also help Crockett Park with their need for programs. This project will be one night a

month when we can say for sure we will have telescopes set up at Crockett unless the weather interferes. To sign up for these nights, which will be the last Saturday night club night of the month (April 26, May 31, June 28), look for the sign up sheet at our regular monthly meetings, see our web site at <http://astro.gmu.edu/~novac>, or e-mail Pete Johnson at [pjohnson@dgsys.com](mailto:pjohnson@dgsys.com).

One more thing, while you have your calendar out. Mark down Saturday June 7 and Saturday September 6. June 7 is the date for our club picnic and September 6 is the date for our telescope meet. Both of these activities will be at Crockett Park.

Looking forward to seeing you at many of the comet parties!

Brenda

## USNO Press Release, continued

(Continued from page 4)

65 North Catalina Avenue, Pasadena, CA 91106. Requests must be received by March 20, 1997. Admission is free; limit of 2 tickets per request. Limited parking is available on the grounds. The Observatory's 8:30 PM Monday night tours will also continue throughout the period, on a first-come, first-served basis. On Monday, March 31, an additional tour will

begin at 7 PM to accommodate comet-watchers. The Naval Observatory provides an on-line program that allows you to obtain a detailed prediction of the comet's position for your location (in the U.S.), along with moonlight interference information. You may access it by going to the Naval Observatory's Home Page at <http://www.usno.navy.mil/> and entering the "Astronomical Applications" depart-

ment, then its "Data Online" section. See also the "FAQ" section, with links to other comet sites.

(Ed. note: Our thanks to Brent Archinal for passing this press release to your editor.)

## Confessions of A Night Sky Novice, continued

(Continued from page 2)

my favorite lunar location, deserving of a 21st century resort development perhaps? It looks like a lunar Acapulco Bay (without the water and tequilla) with its horseshoe shape and huge cliffs.

A simple tip for beginners that I've discovered: when viewing the Moon through my telescope, I simply shift the angle of the eyepiece while keeping the scope stationary. Lo and behold, the viewing perspective changes completely! Craters, mountains and valleys dramatically and instantly change their appearances as the viewing angle changes. It's as if you traveled thousands of miles in the flip of a wrist.

Of course, the Moon contains scores of fascinating features, and it is almost unfair just to mention a few. For any Moon addicts reading this, I highly recommend: *Exploring The Moon Through Binoculars and Small Telescopes* by Ernest H. Cherrington Jr. The author describes in great detail the Moon's most prominent features every night of the month. There are also lots of photographs and diagrams.

### The Jovian System

To anyone who has read this far, bless you! I'd like to end by discussing the joys of this first year observer's views of Jupiter during the warm spring and summer months. They began with my first telescopic view of the large creamy white disk of Jupiter with four moons were lined up on the same side, in a relatively straight line. The next time only two moons were apparent. I thought to myself: this doesn't

make sense; where are the missing ones? Do I have some kind of flaky telescope? After some reading and even thinking, I realized that missing moons are potentially better than visible moons because sooner or later a missing moon should reappear on a predictable schedule, and with luck and planning I can see it all happen! And so I saw it, one night right from my own backyard, an event which has occurred every 1.8 Earth days for several billion years: the reemergence of Io from behind Jupiter. First, I barely detected a minuscule white smudge on the edge of Jupiter. Ever so slowly the smudge became an obvious tiny white pimple on Jupiter's mass until it began to barely separate from the planet, developing its own separate starlike existence. At this juncture, one could scarcely put a toothpick, it appeared, between Jupiter and Io. How privileged I felt to be able to witness this remarkable sight. I felt almost Godlike. I unsuccessfully searched for analogies to any other experiences I have encountered in my fifty-four years. While I had seen the Sun and Moon rise and set in relation to the Earth, where else had I ever seen two other celestial objects perform these acts in relation to each other? Another night I saw Europa slowly disappearing behind Jupiter's limb. An almost equally fascinating sight.

Someone once asked me if I felt more insignificant when observing the nighttime sky since the stars and the universe are on such an unimaginable time and distance scale. My reaction has been just the opposite; I feel more connected and in some small way a part of it

## Membership Listing Changes

Tilly Smith:

[smith\\_walter\\_t@hq.navsea.navy.mil](mailto:smith_walter_t@hq.navsea.navy.mil)

Raymond Pfaff: [RayP479546@aol.com](mailto:RayP479546@aol.com).

William C. Burton: [bburton@usgs.gov](mailto:bburton@usgs.gov)

## 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 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](mailto:edfein@cpcug.org).

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

all. It's a most pleasant feeling, especially on a cool summer's night.

**Northern Virginia Astronomy Club  
Statement of Cash Received and Disbursed  
For Calendar Year 1996**

**CASH RECEIVED:**

<b>Membership Dues:</b>		
Renewals	\$2,406.00	
New Members	1,704.00	\$4,110.00
Bulletin Board Receipts		205.00
Interest Income		221.15
Hat Sales		90.00
Library Books & Stool		29.00
Kalmbach Books (Net)		8.76
Prior Year's Calendar Sale		10.00
<b>Total Cash Received</b>		<b>\$4,673.91</b>

**CASH DISBURSED:**

<b>Newsletter</b>		
Printing & Assembly	505.86	
Postage	464.59	970.45
Meeting Supplies		7.50
<b>Observing Site Expenses:</b>		
Portable Toilet	135.86	
Locks	38.34	
Picnic Permit	45.00	
Lumination	12.00	231.20
Astronomical League Dues		400.25
Publicity (Printing)		26.91
<b>Administrative:</b>		
Liability Insurance	368.00	
Printing -		
Membership Applications	43.89	
Printing - Stationery	38.14	
Printing - Checks	12.25	
Postage	161.33	
Supplies	6.59	
State Registration Fee	25.00	
Personal Property Tax	29.71	
Bank Service Charge	1.00	685.91
<b>Total Cash Disbursed</b>		<b>2,322.22</b>

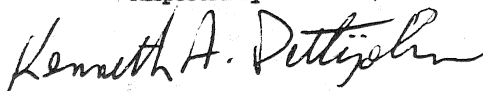
**EXCESS OF CASH RECEIVED OVER CASH DISBURSED** **2,351.69**

<b>Cash at beginning of period:</b>		
As Previously Stated	6,257.83	
Interest Credited December 31, 1995	11.25	
Write-off 1994 Outstanding Check	2.00	6,271.08

**CASH AT END OF PERIOD** **8,622.77**

<b>Cash At End Of Period:</b>		
Checking Account	1,048.90	
Savings Account	2,895.28	
Certificate of Deposit Due 6/12/97	2,251.25	
Certificate of Deposit Due 3/10/97	2,427.34	8,622.77

Respectfully submitted,



Kenneth A. Pettijohn,  
Treasurer  
(301) 983-3199  
pettijohn@erols.com  
7916 Ivymount Terrace  
Potomac, MD 20854

## Auditor's Report

The audit of NOVAC (The Northern Virginia Astronomy Club) was performed on Saturday, February 15, 1997. Before I go into the detail of the audit, I would like to tell a little bit of my background.

I have a bachelor's degree in accounting with over two years of accounting experience. I took one course in auditing while working on my bachelor's degree. Additional auditing skills were acquired when my employer was audited twice in the last two years by professionals.

I first reviewed the bylaws and then looked over the bills to determine if all the expenses were properly listed and the total amounts correct. After a careful review, they are properly stated along with the amounts. I next moved on to the revenues accounts. After a careful review, I determined that all revenues are properly stated along with the total amounts.

From these audits I determined that several things happened. The first thing is that we received more revenue from membership renewals than from new members. NOVAC did pay the liability insurance because I have seen the insurance certificate stating that NOVAC has liability insurance. NOVAC has also paid the annual Astronomical League dues, annual state registration fee, and the annual personal property taxes (Fairfax County, VA).

The amounts stated at various bank accounts are correct because I have seen the bank statements for the period ending December 31, 1996. NOVAC does have two certificates of deposits and the amounts stated are correct. NOVAC tries to maximize the earning potential by maintaining the minimum amount in the checking account while still avoiding monthly services charges. The rest of the money is maintained in the saving account and the two certificates of deposits which pay interest. All the membership cash receipts are deposited directly into the savings account and as the money is needed it is transferred over to the checking account.

NOVAC is a non-profit corporation: an IRS letter recognizes that NOVAC is a 501(c)3 organization. Maintaining strong internal controls is vital in protecting NOVAC assets. I noticed this when I ran across two checks that required two signatures. (When checks are over \$300.00 dollars, two signatures are required.) The two checks were for the annual Astronomical League dues and for the liability insurance. There is always room for additional improvements with internal control which I discussed with Ken Pettijohn.

I had a great time while I was during the audit. Any person can perform the audit because it does not require a lot of experience. There is no need to have accounting or auditing experiences to do the audit. All that it takes is being familiar with what NOVAC does. I hope that my audit experience will encourage others to volunteer. If any of you have any questions about the audit, I can be reached at the monthly general meetings at the Arlington Planetarium or you can refer to the September/October 1996 newsletter and reach me that way.

Pedro Martinez  
Auditor

# American Institute of Physics Bulletins Excerpts

(From) The American Institute of Physics Bulletin of Physics News, Number 301 December 31, 1996 by Phillip F. Schewe and Ben Stein

**OXYGEN DATING THE MILKY WAY.** A new technique uses stardust to formulate an age for our galaxy. By looking at the isotopic composition of meteorites, scientists can tell whether certain grains came from outside the solar system. Such specks of matter would also necessarily predate the solar system and would have originated in other stars, either as part of the stellar wind gusting away from red giant stars or as the debris of ancient supernovas (Science, 15 November). Larry Nittler, now of the Carnegie Institution of Washington (202-686-4370, x4421), has sorted 87,000 oxide grains according to two composition ratios: O-16/O-17 and O-16/O-18. From this huge sample he has isolated 87 grains that seem to be "presolar" in nature. Employing these bits of stardust to represent extrasolar material, and using theories about how the heavier elements are cooked in successive cycles of supernovas, Nittler can estimate an age for the Milky Way galaxy-14.4 (with a statistical uncertainty of 1.3) billion years. (L.R. Nitter and R. Cowsik, upcoming article in Physical Review Letters.)

(From) The American Institute of Physics Bulletin of Physics News Number 303 January 16, 1997 by Phillip F. Schewe and Ben Stein

**A BLACK HOLE'S EVENT HORIZON HAS BEEN DETECTED.** Ramesh Naryan and his colleagues at the Harvard-Smithsonian Center for Astrophysics have used the orbiting ASCA x-ray telescope to study x-ray novas, binary systems in which gas from one star is pulled toward an accretion disk and the spherical region surrounding a compact companion. These systems occasionally flash prominently at x-ray wavelengths (hence the name x-ray nova), but Naryan is more interested in what happens during the quiescent intervals between upheavals. His recent theory, called the advection-dominated accretion flow (ADAF) model, suggests that if the accretion rate is slow enough the inspiraling gas will refrain from radiating away its accumulating energy. Instead the gas continues to get ever hotter, reaching temperatures as high as  $10^{12}$  K. Eventually this enormous energy buildup is dealt with in one of two ways: if the compact object is a neutron star, the gas will fall onto its surface, where it heats the star, causing it to radiate. In contrast, if the object is a black hole, there is no surface for the gas to fall upon;

instead, like a prisoner being led to execution, the gas crosses the black hole's event horizon, never to be seen again. In effect, 99% of the gas energy disappears from the universe. Because of this, x-ray binaries containing a black hole should be dimmer than those with neutron stars. Naryan, speaking at this week's meeting of the American Astronomical Society in Toronto, reported on nine binaries which fit the ADAF pattern of behavior. Four of these were thought to harbor black holes (because of their higher masses), and indeed these are all dimmer than the five neutron-star binaries. Naryan judges this dimness, and the binaries' x-ray spectra, to be the sign that an event horizon is at work, and that this in turn constitutes the most direct evidence yet for the existence of black holes.

(From) The American Institute of Physics Bulletin of Physics News Number 304 January 23, 1997 by Phillip F. Schewe and Ben Stein

**IS THE UNIVERSE CRYSTALLINE?** As astronomers measured shifts for additional galaxy superclusters, the three-dimensional architecture of the universe becomes more evident. New redshift surveys, reaching ever further into space, are benefiting from fiber optics and increasing automation. A fresh analysis of current redshift catalogs offers some evidence for aperiodic arrangement of superclusters, separated by voids, on a scale of 120 megaparsecs (about 390 million light years). Great walls of galaxies on this scale have been discerned before, but the apparent periodicity is new. The researchers suggest that a new theory might be needed to explain the sort of immense 3D-chessboard structure they seem to be finding in the data. (J. Einasto et al., Nature 9 January 1997.)

**OUR LOCAL CLUSTER OF GALAXIES IS STILL FORMING.** For decades astronomers have wondered about the origin of certain fast-moving clouds of atomic hydrogen in the vicinity of the Milky Way. In some cases the clouds appeared to be plunging into the plane of the galaxy (at speeds as large as 500 km/sec), and could not be considered as rotating with the galaxy. Later observations showed that some clouds actually seemed to be moving away from the Milky Way. A synthesis of new radio-telescope measurements plus re-evaluated data from COBE and the Hubble Space Telescope indicates that the clouds may be raw material left over from the formation of the entity known as the Local Group of galaxies, whose largest shareholders are the

Andromeda galaxy (with 65% of the mass of the group) and our own Milky Way (30%). Reporting at last week's American Astronomical Society meeting in Toronto, Leo Blitz of UC Berkeley and David Spergel of Princeton said that the high velocity clouds will continue to feed the Milky Way (providing fuel for future star formation) and might even harbor dark matter, a hypothesis which would account for the continued stability of the clouds and their unexplained large internal velocities. Spergel said that the features of his theory for nearby high velocity clouds might apply also to larger, more distant hydrogen clouds in the cosmos.

## Books at Increased Discount

NOVAC is participating in the discount book sales program offered by Kalmbach Publishing. We may buy any astronomy related book for **25% off** the list price if 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 the check out to NOVAC for the price of the book minus the discount when you place the order.

## International Dark-Sky Assoc.



Join the IDA!

3545 N. Stewart Tucson AZ  
85716

## Site Locations

Here are the locations of our four observing sites as provided by NOVAC members:

- Savage: 39° 04.7' N; 77° 51.7' W
- Parsells: 39° 01' N, 77° 32' W
- Crockett: 38° 37' N; 77° 43' W
- Nichlason: 38° 44' N; 77° 21' W
- Big Meadows: 38°32'N, 78°26' W.

## Time and Weather

Here are two handy phone numbers:

- Time: from the US Naval Observatory Master Clock, Voice: 202 762-1401
- Weather: from the National Weather Service: Local and Extended Forecast, Voice: 703 260-0307

# Minutes of the January and February Meetings

Pete Johnson

## Minutes of the January 7, 1997 Annual Meeting.

The meeting was called to order at 7:30 by Club President Brenda Clements Jones. The meeting was held at the Arlington Planetarium.

**New Voice Mail System:** The NOVAC voice mail system was described by Pete Johnson. Four mail boxes are setup for general information, meeting schedule, special events, and membership information. The mail system is also capable of fax back (i.e. sending faxes to phone callers). The phone number (803-3153) will be posted on the web site, in the newsletters and on flyers. It was decided to put a message on the old hot-line phone number directing callers to the new number for a few months before discontinuing the service.

**Library:** The library group, Craig Tupper and Bob Bunge, has put together a tentative list of books. A book distributor is considering a donation that would save us between fifty and one hundred dollars. We are looking at spending four to five hundred dollars. Steve gave us permission to put doors on the shelves, and they will be installed next Wednesday. The doors will be locked. The library budget, for books and shelves, was noted to be seven hundred and fifty dollars. Contributions to the library are welcome, but we want to keep the topics limited to current astronomical literature.

Brenda Jones asked for volunteers to monitor the library after the meetings to help check out books.

**Event Dates:** Astronomy Day is April 12. The picnic is scheduled for June 7. The Telescope Meet will be held September 6.

Brenda Jones suggested we have a club member available on viewing nights to conduct informal viewing for the public. It was suggested that we have a PR person designated and set up in such away to make her/him identifiable. Tilly said he would figure out the logistics of how to do it. Pete suggested a mail box announcing if the viewing session was on and who would be on-duty for the public. Brenda will have a sign-up sheet available at the next meeting.

**Comet Hale-Bopp:** On April 5th Geoff Chester is at Sky Meadows (tentative) and requested the assistance of some NOVAC members to help out with the public viewing. (Brent had declared and committed his reputation to Hale-Bopp being a bright, life altering event).

Decision: Hale-Bopp public viewing dates  
March 29—Public viewing at Crockett Park

April 5—Support of Geoff at Sky Meadows. (tentative)

April 12—Astronomy Day. Also Hale-Bopp viewing

Tilly Smith and Craig Tupper will be in charge of logistics to support the public viewing sessions.

Brenda Jones solicited the membership for individuals to entertain the press with regards to Hale-Bopp. Respondents were Frank, Bill Burton.

**Newsletter:** Elliott Fein issued a request for articles for the newsletter. Brenda said that there were numerous excellent articles in past issues and that, space allowing, could be reprinted.

**Programs:** Tilly Smith discussed the program plans for the upcoming season. These included: February—Rob Landis - Hubble Maintenance Mission. March—Geoff Chester - How to start out in astronomy. Bob Bunge suggested doing a slide show of star parties, i.e., Stellefane etc. Brenda Jones noted that requirements for equipment must be arranged in advance.

**Minutes:** An issue was raised as to how to keep the official minutes of the club meetings. At debate was whether to record only motions or motions and general discussion. It was agreed that minutes should be reviewed and then published in the next newsletter. Bob Bunge made a motion "That we should record all minutes of decisions (motions)" The motion was seconded but not voted on.

**Insurance:** NOVAC now has new insurance. Previously, the insurance provided by the Astronomical League did not cover us at camp grounds. The new policy does. Brent Archinal then raised the issue of remaining in the Astronomical League, noting that the primary reason for joining was for the insurance. These funds could be put to better use if we dropped out. Brenda Jones said she couldn't see six hundred dollars in value returned. Brent summarized some of the advantages of League membership. It was decided to put the issue of remaining in the Astronomical League to the general membership.

The meeting was then adjourned.

Respectfully submitted,  
Pete Johnson,  
Secretary

## Minutes of the January 15, 1997 General Meeting of the Northern Virginia Astronomy Club.

The Meeting was called to order at 7:30 PM by Club President Brenda Clements Jones at

the Arlington Planetarium. Forty-one members and guests were in attendance.

### Announcements:

1. Brenda announced that the minutes of the Board meeting would be published in the newsletter, noting that they had been dropped in order to shorten the business portion of the meeting.

2. Gary Kwolek at Crockett Park has expressed concern as to the lack of visitors at the park and wants to set up public viewing nights to be announced in schools and papers. Brenda will have a sign-up sheet at the next meeting to enlist members to support the effort. The coordination of this is in the thinking stages and will need to be developed.

3. Doors are being put on the library and we are getting new books. Pedro Martinez and Craig Tupper have volunteered to help out with managing the library. We want a number of people willing to help out.

4. Calendar changes: we should remove November 28th and December 26, 27th from the viewing schedule because the park will be closed.

5. Comet Hale-Bopp: March 29th we will have a big public party at Crockett Park. Geoff Chester is having a viewing April 5th and has asked if we would help. April 12th is Comet/Astronomy day at Crockett.

The Naval Observatory will be having three nights for viewing the comet: one for the public, one for VIPs and one for employees (tentatively the first week in April)

6. The NOVAC picnic will be June 7th. Bring telescopes for observing and enjoy the park.

7. The Telescope Meet will be September 6th.

8. Tilly Smith announced the lecture schedule for the next six months.

February - Hubble Space telescope- the current servicing mission

March - Geoff Chester will give an introduction to astronomy: "How to get started"

April - Member presentations on Comet Hale-Bopp viewing.

May - Member presentations on star parties.

June - ????

9. Pete described the hot line and the new hot line number is 803-3153. The old number will have a reference to the new number.

Ken Pettijohn (Treasurer) made a last call for an audit committee.

Jeff Stetekluh gave his observing report for January.

**Shuttle launch:** There was a general discussion of attempts to see the shuttle launch.

**Show and Tell:** Bill Burton went over his morning comet viewing of Hale-Bopp.

There was a discussion about a nice article on John Dobson in the Wall Street Journal.

**January Presentation:** Tilly introduced Dr. Mel Weiner from Goddard to discuss his research into comets.

The meeting was then adjourned at about 9:50 PM.

Respectfully submitted,  
Pete Johnson,  
Secretary

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### **(Unofficial) Minutes of the February 1997 Board Meeting of the Northern Virginia Astronomy Club**

The meeting was called to order at 7:30 p.m. at the home of club president Brenda Jones.

**Library:** Status is unknown. Craig Tupper has assembled a book list and is awaiting review and comment by Bob Bunge.

**Survey:** At present, there has been no response from the survey distributed at the last general membership meeting. Since the last meeting, Craig Tupper has been investigating potential viewing sites in West Virginia. Pete Johnson commented that GMU is the largest land owner in Northern Virginia and that there may be an opportunity for a joint facility. Ken Pettijohn noted that the board has not voted on spending any money for land at this time.

It was agreed that Craig Tupper would continue investigating land opportunities and Pete Johnson would investigate the GMU option.

**Audit:** Ken Pettijohn reported that the club audit would be conducted Saturday, February 15, by Pedro Martinez.

**Hale-Bopp Activities:** Brenda discussed preparations for the NOVAC Hale-Bopp events on March 29 and April 12.

**Parking:** Bob suggested that we should not use members for parking. It was suggested that we get Boy Scouts to manage the parking. Event starting times were agreed to be: 6:00 PM for March 29; 7:00 PM for April 12.

**Naval Observatory:** Brenda said that NOVAC was asked to help out at the Naval Observatory's public Hale-Bopp observing events scheduled for March 31 and April 1. The March 31 date is the normal Naval Observatory open house. The April 1 event is in conjunction with the Planetary Society and limited to 500 tickets issued. NOVAC will have to supply a list of members to assist in viewing. Only members on the list would be admitted. Observations are to be conducted on the helicopter pad.

**Sky Meadows:** Brenda noted that we have been asked to help support Geoff Chester's

comet party on April 5.

**GMU & Public Observing:** Pete Johnson said that NOVAC has been asked to assist the George Mason University (GMU) Astronomy department. GMU would like to give lab credit to students who attend NOVAC observing sessions. To support this, we would have to supply a schedule of people willing to assist on regular viewing dates. Members participating would sign off on the students attending. Pete said he would come up with a calendar to coordinate dates and names with the GMU staff.

Brenda Jones said that Crockett Park's Gary Kwolek would like to publish public viewing dates in the Crockett Park newsletter and asked if we would support the effort and provide members.

**Picnic and Swap Meet:** The annual NOVAC picnic has been scheduled for June 7.

**Astronomical League:** Brenda Jones raised the issue of whether NOVAC should stay a member of the Astronomical League noting the primary reason for club membership was for the insurance coverage the AL offered. She stated that we now have our own insurance with better coverage. It was agreed that the issue should be voted on by the general membership. It was also agreed to publish a notice in the newsletter informing members of the vote. It was decided to ask Brent Archinal to write a pro Astronomical League article and Bob Bunge to author a rebuttal article. The articles and announcement will be published in the May/June Newsletter and the vote is scheduled for the May General Membership Meeting.

**Corporate Agent:** Ken Pettijohn raised the issue that Sandy Sanders no longer qualifies as the NOVAC Corporate Agent and that a new agent needed to be assigned. Nicole Mastej volunteered and was voted on and approved by those attending.

The meeting was adjourned at 9:00 PM.

Respectfully submitted,  
Pete Johnson,  
Secretary

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### **Minutes of the February 1997 General Meeting of the Northern Virginia Astronomy Club.**

The meeting was called to order at 7:30 PM by club president Brenda Clements Jones at the Arlington Planetarium. There were 34 members and guests in attendance.

#### **Announcements:**

1. Re Comet Hale-Bopp, Brenda Jones announced the schedule for the public events as:

March 29—Crockett Park at 6:00 PM. Crockett has agreed to take full responsibility

for parking.

March 31—the Naval Observatory open house. They would like us to help with our telescopes.

April 1—the Naval Observatory, in conjunction with the Planetary Society, will issue 500 tickets to the public. We need a list of members to support both March 31 and April 1 dates. Members not on the list will not be admitted. This information will be in the Newsletter.

April 5—Geoff Chester will be at Sky Meadows and would like us to come out with telescopes. Geoff suggested we could have a regular observing session afterwards.

April 12—Astronomy Day at 7:00 PM as well as the last views of Hale-Bopp.

2. GMU and Public viewing session: Pete Johnson announced that George Mason University (GMU) wants to give lab credit to students attending observing sessions. As part of the public viewing sessions we are putting together a sign-up sheet on the NOVAC web site for signing-up to assist. We currently have people signed-up for the end of March and the beginning of April. The public viewing sessions to be published in the Crockett Park newsletter will be the last scheduled viewing Saturday of each month.

3. NOVAC events:

June 7—NOVAC picnic.

September 6—NOVAC Telescope Meet.

4. Messier Marathon: Bill Burton said the Messier Marathon is an attempt to see as many Messier objects in one night as possible. Jon Stewart-Taylor is organizing the marathon for March 7 and 8 and April 4 and 5. A sheet of objects in recommended observing order was made available. The list is also available on the web site. Jon would like to gather the results and publish them in the newsletter. Bill then showed his drawings of the comet and described the detailed structure of the comet tail.

5. Library: Craig Tupper and Pedro Martinez were introduced as those helping with the library.

6. Brent Archinal announced that an astronomy book/guide by Chris Lukanville and Brian Skiff is available for \$15 and \$3 handling, noting it is one of the best observing guides available. Order forms were made available.

7. Brent also announced the 1997 Northeast Astronomy Forum & Telescope Show on April 20 in New York highlighting the excellent speakers. Flyers were made available.

#### **Officers Reports**

Vice President Tilly Smith: The March meeting will present Geoff Chester in "How to start out in astronomy and where to go". April

and May will be member presentations on comet observations. Those interested in participating should contact Tilly to get on the program. May will be member presentations on sky parties. Contact Tilly if you are interested.

Secretary Pete Johnson: Nothing to add to the previous statements.

Treasurer Ken Pettijohn: CCD Astronomy discontinues after the last issue so do not send subscriptions. Pedro Martinez has completed an audit of the 1996 financial report that will appear in the next newsletter.

**Observing Report:** Jeff Stetekluh offered his detailed observing report.

**New Observing Site:** A possible new observing site was discussed. The closed Missile Base located on route 193 west of Great Falls may become available as it transitions from federal to local ownership. The site has an observatory dome. A local amateur has offered to put in a 16-inch telescope. Slides of the site were shown.

Brenda Jones has been in communication with county officials who are planning the site for

multipurpose roles, possibility including astronomy.

**Presentation:** Rob Landis from the Space Telescope Science Institute - Moving Targets Group. The topics discussed were related to the space telescope service mission.

The meeting adjourned at 9:00 PM

Respectfully submitted,

Pete Johnson,

Secretary

## 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 Ken Pettijohn, 7916 Ivymount Terrace, Potomac, MD 20854. 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 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 and is easily transported and can be set up quickly at remote observing sites. The scope comes with an 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 Librarian Marta Krause, or Deputy Librarian Steve Custerer 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 Nicholson site: see 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 will be 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 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.

(Continued from page 10)

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 and 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 noises, 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 to the 47-a exit. This is 234 South to Manassas. Continue on 234 for 2.8 miles then turn right on Godwin Drive at what was previously the *Po Folks* restaurant. Follow Godwin Dr. for 1.8 miles keeping to the right to merge with Rt. 28 West. Once on Route 28, continue driving for another 13.7 miles through the towns of Nokesville, Catlett, and Calverton until you turn right on Rt. 643 toward Warrenton. There is a small country store (*Mayhugh's*) on the corner of the intersection. Go on about a mile up Rt. 643 to the Park Entrance road. Look for a small sign for C.M. Crockett Park on your right directing you to turn left. Once on the park entrance road, go one-half mile to the park gate.

Alternate directions to avoid Manassas: Go west on I-66 (21.7 miles from I-495) to Exit 43A in Gainesville onto Rt. 29 South toward

Warrenton. 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 West on Waxpool, and go 1.8 miles to the Waxpool/Farmwell intersection. Turn left on Route 625. Waxpool Rd. (!), and go 1.6 miles to the Waxpool/Ryan/Shelhorne intersection. Continue on Waxpool for about another 1.6 miles to the field. Turn left and follow the blue parking signs to the parking area.

**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 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 observing 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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Membership in the Northern Virginia Astronomy Club is \$18.00 per year and is open to anyone interested in astronomy or the sciences. Additional memberships at the same address are \$6.00 per person without additional copies of the newsletter. Contact Ken Pettijohn, Treasurer, 7916 Ivy Mount Terrace, Potomac, MD 20854, telephone 301 983-3199, [pettijohn@erols.com](mailto:pettijohn@erols.com). All notices of change of address should be sent to Ken Pettijohn. Please include both old and new addresses.

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NOVAC members are invited to contribute materials of interest for publication consideration 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](mailto: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., Feb. 10 for the Mar./Apr. Newsletter

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## 1997 NOVAC Observing Dates (Subject to change)

### C.M. Crockett Park

March 1, 7 (Messier Marathon), 8 (Messier Marathon), 28, 29 (Comet Party) April 4 (Messier Marathon), 5 (Messier Marathon), 12 (Comet Party/Astronomy Day (Night!)) 25, 26 May 2, 3, 4 (Eta Aquarid meteor shower), 9, 10, 30, 31 June 6, 7 (NOVAC Picnic), 27, 28 July 4, 5, 25, 26, 27 and 28 (Soouthern 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)
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### Savage Farm & Nichlason Site

March 1, 2, 7, 8, 9, 28, 29, 30 April 4, 5, 6, 25, 26, 27 May 2, 3, 4 (Eta Aquarid meteor shower), 9, 10, 11, 30, 31 June 1, 6, 7, 8, 27, 28, 29 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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### Other Observing Sites and Dates

March 31 - Open House at USNO April 1 - Comet Party at USNO	April 5 - Comet Party at Sky Meadows with Geoff Chester
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# NOVAC



**The Northern Virginia Astronomy Club**  
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 Potomac, MD 20854

**Inside:**

- Hale-Bopp Events
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