

THE SHORELINE OBSERVER



*Newsletter for the
Shoreline Amateur Astronomical Association*

President- Peter Burkey

Vice President- Steve Tuls

Secretary/Treasurer- Mark Logsdon

Robert Wade, Editor

October 1991

October Meeting

The October meeting of the Shoreline Amateur Astronomical Association will be held on Thursday, October 17th, beginning at 7:00 PM in the West Ottawa Middle School Planetarium in Holland, Michigan. The agenda will be as follows:

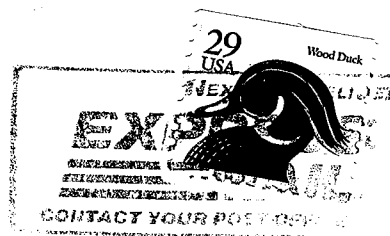
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| 7:00-7:30 | Socializing followed by a tour of the October Night Sky and the Constellation of the Month. |
| 7:30-7:45 | Election of 1991-1992 officers. |
| 7:45-8:45 | Pete Burkey will present a series of slides on this June's triple conjunction, as well as demonstrate working with a spectrum. |

Executive Board Meeting

The meeting was held September 26th with Pete Burkey, Steve Tuls, Mark Logsdon, Arlin Ten Kley, Sandy Plakke, and Bob Wade present. Mark submitted a treasurer's report showing \$473.48 on hand as of September 26. We had a total of 14 new and old members renew their membership by last meeting.

The October 17th meeting will include nomination and election of 1991-1992 officers. John Dobson's memorable discussion went on at length and there was no time to conclude with nominations last

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meeting. Meeting agendas for the coming winter months were also reviewed.

Some discussion centered on sending the club newsletter to non-members. The consensus was that 2-3 newsletters would be sent to interested persons. For those members who do not rejoin by the September meeting, the October newsletter will be their last.

Our November star parties will take place at Bob Wade's on November 1st and Mark Logsdon's on November 8th.

The meeting was adjourned at 7:50 PM.

Respectfully submitted by Mark Logsdon

ASTRONOMY IN THE COLD

Jack Kramer

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Astronomy isn't a seasonal hobby, yet when the cold of winter strikes, the number of observers really falls off. But those who don't want to face the weather often miss some of the most beautiful skies of the year. The secret to coping with the cold lies in dressing appropriately. Even late fall and early spring observing requires some cold weather gear because when the temperature drops into the 30's, you'll really feel cold after a couple of hours if you're not dressed properly.

You've no doubt heard that the way to stay warm is to wear layers of clothing. But I've seen people come to an observing session wearing layers of clothing under their heavy jackets, only to be felled by the cold within an hour. The problem is that they've been done-in by the one part of their anatomy that isn't protected as well as the rest. So let's look at these weak links.

One item that should be a part of our cold weather uniform is what's generally referred-to as the "snowmobile suit"; it's really just an insulated coverall. It keeps your legs warm and because it's a one-piece garment, there are no cold drafts going up under your outer clothing. As an alternative to this, there are insulated bib overalls available in sporting goods stores. But it's best to forget about apparel intended for skiers. Ski apparel is fairly light in weight and intended for mobility. But observing is a sedentary activity. Without much muscle activity (other than your brain), you'll get cold in a hurry unless you're wearing heavier clothing. Even with a snowmobile suit, you'll still need some layering underneath, depending on how cold it gets. The best rule of thumb is to wear more clothing than you think you'll need; you can always shed some item of apparel if you get too warm.

Your feet are one of the first things to feel the effects of the cold. Thermal socks and insulated hiking boots are a help, but the best protection is a pair of outdoorsmen's boots, often referred-to as "pack boots" or "sorrel boots". Typically they have leather uppers, rubber-covered lower portions, plus an inner heavy felt liner. These are the boots made famous by the L.L. Bean Company, but they're available at most sporting goods

stores. These boots have two advantages - they keep your feet warm and dry. Others have also had good luck with the less costly footwear referred-to as "moon boots".

Now for the head. The best thing here is knit headgear that also covers your face and neck. This is one item of ski apparel that fits our needs. The best type has separate openings for your eyes and mouth. The type with a single opening for the eyes creates a unique problem; some of your warm breath comes up and out of the eye opening and will fog up your eyepiece as you're observing. If it's really cold, you'll also want to wear a hooded sweatshirt; that'll provide an extra measure of head protection. Some snowmobile suits also come with an attached hood, but some observers find these to be too stiff, plus the material makes an annoying "crinkly" sound with each movement.

Now let's talk about your hands. Heavy, insulated mittens will do the best job of keeping them warm. But they don't allow enough mobility to pick up eyepieces, flip through the pages of your chart, or tighten that set screw. You'll find yourself constantly removing your mittens to perform these routine actions; each time you remove them, your hands are exposed to the cold and pretty soon your hands have become pretty cold. I once tried unlined lumberman's mittens which have a separate forefinger; along with them I wore liners for skier's gloves. The liners were the type with aluminum strands woven into the fabric to reflect heat back into your hands. I found that this arrangement still didn't provide enough tactile sense, and I ended up constantly taking off the mittens and picking things up wearing just the liners, then putting the mittens back on. Pretty soon, my hands got cold. The best solution I've found is well-insulated skiers' gloves that have a rough outside coating on the palms and underside of the fingers. They keep your hands warm and allow enough tactile sense so that you can perform all but the most delicate manipulations without removing the gloves. That's the secret - minimize glove removal!

One of our club members is a physician with experience in cold weather survival in the military. He points out that once a part of your body gets cold, it becomes impossible to warm it up without increased levels of physical activity (getting warmth from somewhere else. If your feet or hands start getting cold, you can walk around or "twiddle" your fingers; the muscle activity

generates heat to keep you going. You can also place your bare hands under your armpits, but while doing so, keep your jacket as tightly closed as possible to minimize loss of body heat. Chemical hand warmer packets work well, too. Avoid alcoholic beverages, but do consume sufficient fluids - you'll get cold faster if you're "dry". The real trick is to not let any part of your body get cold in the first place. Good outerwear is not cheap, but the alternative is to declare a moratorium on serious observing between October and April.

STAR HOPPING

Star hopping is a commonly used method to get around the night sky. The following are a few handy rough measures that might help: With your hand at arms length your little finger covers about 1 degree of sky, three fingers cover 5 degrees, your fist covers 10 degrees, if you spread your fingers, the distance between your index and little fingers will be about 15 degrees. You can check these rough measurements against the big dipper. The top of the cup is 10 degrees across. Its 25 degrees from the tip of the handle to tip of the cup. The cup is 5 degrees deep.

Stepping off with fields of view is another handy method almost everyone uses sooner or later. A question that needs answering before this can be used to best advantage is, what is the angular field of view for the telescope and eyepiece I am using? I first used the following method over 25 years ago. This method is also mentioned periodically in *Sky and Telescope*. It works great for me!

A star on or near the celestial equator moves westward at the rate of 15 degrees every hour or 1 degree every 4 minutes. To find the field of view of your telescope and any given eyepiece or the field of view of your spotter scope, perform the following procedure. If you have an equatorial mount, set the scope up and polar align it as you would for an evenings observing. Turn the scope to point at a right angle to the polar axis. It will now be pointed along the celestial equator. Find any convenient star near the equator and position it at the western edge of the field of view. **NOTE THE TIME.** Let the star drift to the east side. **NOTE THE TIME.** Divide the time in minutes that it took the star to drift across the field by 4 to get the degrees of angular field of view!

EXAMPLE: If it takes 6 minutes for a star to drift across the field, the angular field of view is $6/4 = 1.5$ degrees. If you have an altazimuth mount you will need to use a star chart to find a star along the celestial equator. This method works with any type of telescope and any combination of eyepieces etc.

GUIDELINES FOR STAR NAMING

RICHMOND, VA -- In response to numerous inquiries on the subject of purchasing star names, the International Planetarium Society offers the following information, as stated at their 9th Biennial Conference June 30, 1988 at the Science Museum of Virginia.

SELLING STAR NAMES: The star names recognized and used by scientists are those that have been established through long-time usage or published by astronomers at credible scientific institutions. The International Astronomical Union, the worldwide federation of astronomical societies, accepts and uses **only** those names. Such names are **never** sold.

Private groups in business to make money may claim to "name a star for you or a loved one, providing the perfect gift for many occasions." One organization offers to register that name in a Geneva, Switzerland, vault and to place that name in their beautiful copyrighted catalog. However official-sounding this procedure may seem, the name and the catalog are not recognized or used by any scientific institution. Furthermore, the official-looking star charts that commonly accompany a "purchased star name" are the Becvar charts excerpted from the Atlas Coeli 1950.o. While these are legitimate star charts, published by Sky Publishing Corporation, they have been modified by the private "star name" business unofficially. Unfortunately, there are instances of news media describing the purchase of a star name, apparently not realizing that they are promoting a money-making business only, and not science. Advertising and media promotion both seem to increase during holiday periods.

Planetariums and museums occasionally "sell" stars as a way to raise funds for their non-profit institutions. Normally these institutions are extremely careful to explain that they are not officially naming stars and that the "naming" done for a donation is for amusement only.

OFFICIAL STAR-NAMING PROCEDURES:

Bright stars from first to third magnitude have proper names that have been in use for hundreds of years. Most of these names are Arabic. Examples are Betelgeuse, the bright orange star in the constellation Orion, and Dubhe, the second magnitude star at the edge of the Big Dipper's cup (Ursa Major). A few proper star names are not Arabic. One is Polaris, the second magnitude star at the end of the handle of the Little Dipper (Ursa Minor). Polaris also carries the popular name, the North Star.

A second system for naming bright stars was introduced in 1603 by J. Bayer of Bavaria. In his constellation atlas, Bayer assigned successive letters of the Greek alphabet to the brighter stars of each constellation. Each Bayer designation is the Greek letter with the genitive form of the constellation name. Thus Polaris is Alpha Ursae Minoris. Occasionally, Bayer switched brightness order for serial order in assigning Greek letters. An example of this is Dubhe as Alpha Ursae Majoris, with each star along the Big Dipper from the cup to handle having the next Greek letter.

Faint stars are designated in different ways in catalogs prepared and used by astronomers. One is the Bonner Durchmusterung, compiled at Bonn Observatory starting in 1837. A third of a million stars are listed by "BD numbers." The Smithsonian Astrophysical Observatory (SAO) Catalogue, the Yale Star Catalog, and The Henry Draper Catalog published by Harvard College Observatory are all widely used by astronomers. The Supernova of 1987 (Supernova 1987a), one of the major astronomical events of this century, was identified with the star named SK -69 degrees 202 in the very specialized catalog, the Deep Objective Prism Survey of the Large Magellanic Cloud, published by the Warner and Swasey Observatory.

These procedures and catalogs accepted by the International Astronomical Union are the only means by which stars receive long lasting names. Be aware that no one can buy immortality for anyone in the form of a star name.

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