



# The Spectrum

## Cleaning Your Telescope's Mirror The Safe And Easy Way

Over the years I've helped dozens of club members clean their telescope mirrors for the first time. Many people are downright scared during their first attempt. But there is no reason to be scared if you follow this safe and easy procedure. First, do you really need to clean your mirrors? If your mirrors are just dusty, at most, rinse them only. Every time you clean your mirrors, even if you use the safest methods, you will make some microscopic scratches on your mirror which scatter light. These tiny scratches degrade your telescope's performance much more than a little dust. Since you <sup>can't</sup> scratch the mirror if you don't physically touch it, I rinse my mirrors about two out of every three times I do cleaning. In general, we physically [ie: rub them when cleaning, as opposed to just rinsing] clean our telescopes too often. The large telescopes at major observatories get incredibly dusty, they are cleaned. Given reasonable care in should only need to clean their telescope other residues appear on your mirror it is You will need the following items: a clean of Dawn (blue) dish washing detergent, one soft towel, one 1/2 gallon bowl to mix your rubbing alcohol (with NO skin conditioners surgical cotton, a blow dryer (be sure to it).



dirty and even have bird-dirt on them before keeping out dust and dirt, most people once a year. However, when tree sap and time to clean!

sink (preferably with a sprayer), a few drops gallon of distilled or deionized water, one cleaning solution in, one pint of 91% or other additives), one package of sterile wipe any dust off of the dryer before you use

READY! Here is the safest way I've found would suggest you save this for future

- 1) Carefully remove the mirror from the cell sink (don't clog the drain). Be sure to mirror from the area and keep curious children away.
- 2) Run LUKE WARM tap water at moderate pressure (do not use very high pressure) on the mirror for about 5 minutes, making sure the entire mirror surface remains wet at all times.
- 3) Remove mirror from water stream and make sure all dust and debris that might scratch the mirror are gone, if not let it go under the water for another 5 minutes or until all of this debris is gone. Use your sink sprayer to blast stubborn dirt away.
- 4) If the mirror appears clean after this water rinsing proceed to step #7.
- 5) Using a solution of 1 drop of dawn dish washing detergent mixed in one quart of warm tap water, dip a wad of surgical roll cotton into the solution and drag it [apply NO pressure except the weight of the wet cotton] in a circular motion from the center to the outside edge around the face of the mirror, repeat if absolutely necessary, do not allow the any of the surface of the mirror to dry.
- 6) Immediately rinse the mirror for 5 more minutes with LUKE WARM tap water at moderate pressure to ensure that all of the soap residue is rinsed away.
- 7) Immediately rinse the mirror with the whole gallon of distilled or deionized water.
- 8) Immediately rinse the mirror off with the 91% rubbing alcohol, this will strip most of the water off the mirror.
- 9) Using a blow dryer at low heat, try to blow any remaining water droplets off the edge of the mirror. Any that remain, you may BLOT [not rub!] them away VERY GENTLY with surgical cotton.
- 10) Admire yourself in your in now very clean mirror, which is now ready to reinstall in your telescope.

to clean the mirrors in your telescope, I reference:

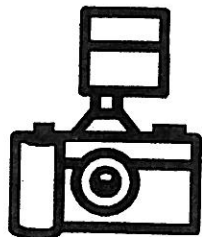
and place it face up on a soft towel in a clean remove anything that might fall on your





Here are a few tips to make your evening enjoyable and educational

Edith Geiger will present her slide show, catching us candidly in the most embarrassing moments



Edith is watching you !

## Observing Tips (what to bring)

Astronomical observation is for the whole family.

We have an observatory and classroom building which will be open on public observing nights

Here are a few tips to make your evening enjoyable and educational.

- 1) Feel free to bring your own telescope or binoculars. Members often bring theirs and will be glad to show you how to use your equipment. Our site is equipped with concrete pads for telescopes, as well as outside electrical hook-ups.
- 2) Plan on arriving just before sunset. It will still be light enough to find your way, but you won't have to wait long for the real celestial show to begin at the end of astronomical twilight.
- 3) Dress for cold nights, even in July! We're not kidding. It gets cold at Beaver Meadows, even in mid-summer. Suggested attire: duck boots or other dew-proof shoes, long pants, winter coat and warm hat. Don't be forced to go home early on splendid nights because you're too cold!
- 4) Call ahead if you are bringing a group so that we can prepare for your educational needs. If you are bringing children, bring blankets or sleeping bags --- they love to lie on the ground and look at the sky.
- 5) Watch those headlights! Turn off your headlights when you get halfway up our driveway, and leave your parking lights on for navigating. People already at the observatory are "dark adapted".

## Calendar Of Events

Please come to our **November meeting**. Our guest speaker is Bill Smith, his topic is Getting the most out of your 4 inch telescope. He will have tips and techniques, and thousands of objects to see. If out is clear he will set it up outside for all of us to see.

Our **December Meeting** is our Christmas Party. Edith Geiger will present her slide show, catching us candidly in the most embarrassing moments. Following her show will be our traditional party. Please bring a dish to pass

## Trip !!!!!

Dan Marcus is organizing a trip to view the Mercury transit from some place where the skies will be clear and the Sun at a higher elevation. St Louis sounds like a double 16-hour drive. We can stay over night on the 14th, have 8 hours to find a site, with clear skies on Nov 15. I would recommend that we request permission to borrow the club's new astrovid camera, and 10' LXZOO scope. I also have access to 2 more standard surveillance cameras, 6" reflector and a van that will hold 3 to 4 comfortably allowing one person to sleep. If any-

one else is interested, we can think about renting a motor home? If you are interested, or know of a place to view from, contact Dan Marcus #773-5015, or E-mail at DMA3141551@AOL.COM. !

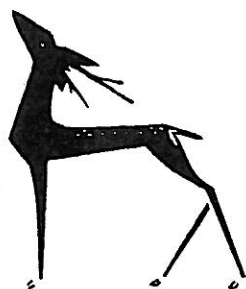
The transit in Buffalo will be starting at an elevation of 6 degrees, and the Sun will set before transit is over.

In St. Louis Sun is at 15 degrees at start and 6 degrees at end.





## LIGHT, TIME-KEEPING AND NAVIGATION



Scripture tells us that God created the Sun, Moon and stars to give light (brightening the utter darkness of the night sky) and to assist mankind (Genesis 1:14-15, etc.). That's right, one of the reasons that God made the Moon, solar system and stars was to provide a way for us to distinguish the passage of time (days, months and years) and predict the coming of seasons. Without these heavenly bodies, the job of keeping time and navigation would have been far more difficult. We learn from history that from the earliest days, ancient peoples used the movement of stars in producing their calendars and finding their way across great distances, just as God designed from the beginning. It may be that even some migrating birds make use of the constellations.

**GLORIFYING THE CREATOR.** Another purpose for the myriad of stars is to bring glory to God -- focusing man's attention on the Creator's awesome power and greatness. Psalm 19:1 states, "The heavens are telling of the glory of God; and their expanse is declaring the work of His hands." The vastness of the universe is a tremendous expression of God's might and power. God is greater than we could ever

imagine, even greater that His spectacular creation, the universe. Psalm 8:1,3,9 states, "O Lord, our Lord, How majestic is Thy name in all the earth, Who hast displayed Thy splendor above the heavens! ... When I consider Thy heavens, the work of Thy fingers, The moon and the stars, which Thou has ordained; ... O Lord, our Lord, How majestic is Thy name in all the earth!" When we consider the vastness of the universe, let us meditate upon the glory of God, not on dreaming up fantasies of alien beings. The Bible does not teach that intelligent life exists elsewhere in our universe. Although our all-powerful God could have created such life had He desired, it seems rather obvious from Scripture that He did not. The timetable for this present universe is measured by God's dealings with us. It appears that God has created the human race, on the planet called Earth, as the sole beneficiary of His fellowship. This fellowship is of such a unique design that we are told that God's only true extra-terrestrial creations -- angels -- are eager to observe it in action. It is our privilege to be the center of attention in our vast and wonder-filled universe.

It is important to remember that the stars and planets were not created billions of years before Earth. According to the Bible, Earth is not the result of billions of years of stellar evolution during which many other planets were created. Earth was created before any other planet or star existed. Earth came into existence on the first day of Creation (Genesis 1:1). God withheld the creation of the Sun, Moon and stars until the fourth day (Genesis 1:14-19). Earth is unique and holds center stage in God's Creation.

Furthermore, the Bible clearly indicates that the fate of the universe (every other planet and star) is forever linked to God's timetable for mankind and the Earth. One day, Christ will return to Earth and complete the final act of man's redemption (2 Peter 3:9-10). He will destroy this present universe and create a new heavens and Earth (2 Peter 3:7,10; Revelations 21:1). All the stars and planets will be destroyed, along with the Earth.



## BAA ANNALS

5 YEARS AGO - Our own members, Dave Fliss, Terry Farrell, Larry Carlino, Dan Marcus and Mark Reville, presented to us at our November 1994 meeting a low cost approach to enjoying astronomy. They highlighted choices of books, observing aids, telescopes and computers. In December, Rowland Rupp showed us a video tape of the construction of the Beaver Meadow Observatory addition the year before. Edith Geiger's annual presentation of club activities, as viewed through her camera, prepared us for our Christmas party.

David Rittenhouse, America's Colonial Astronomer, was the subject of a SPECTRUM article by Steve Kramer. For those of you who wish to know about Julian dates, the November-December 1994 SPECTRUM carried an article by Joe Orzechowski on the subject. You'll also find out in this issue about Rowland Rupp's frustration in using the BMO 12-inch telescope in his article entitled "That Darn Telescope".

10 YEARS AGO - Our November 1989 guest, Dr. Emil Wolf, Professor of Physics and Astronomy from the University of Rochester, spoke on a new mechanism that produced red shift in spectral lines. A Photographic Showcase for members was featured in December. We were all invited to show off up to ten of our astrophotographic accomplishments. Edith entertained us with her unique brand of photographic prowess as well.

"The Newstead Observatory" was the title of Ed Lindberg's SPECTRUM article. The idea for the BAA's first observatory was conceived in Ed's home in 1958, and Ed was instrumental (pun) in grinding and figuring the 12.5 inch mirror himself. The telescope was located at our observatory in the Town of Newstead for several years until it found its way to Beaver Meadow.

In fact, in this issue of the SPECTRUM, President Doris Koestler reported that at a special meeting, club members had decided to procure a portable, 20 inch Dobsonian telescope that would be housed at BMO. Both that instrument and the venerable 12.5 inch, built by club members more than three decades ago, are available to all of us at our observatory today.

15 YEARS AGO - In November 1984, Buffalo State's John Murtaugh spoke on "Impact Craters on Earth". For December we heard about Carl Milazzo's visit to Stellefane, and from Edith on our annual antics. The traditional wine, cheese and cookies followed.

John Riggs provided us with his own updated calculations of some double star separations and position angles for those who wanted to check the resolving power of their telescopes. John pointed out that published double star properties are often long out of date.

Michael Idem, who like John Riggs was an intrepid observer, analyzed Beaver Meadow as an observing site. He concluded that for observing detail on bright objects like the moon, planets and double stars, the steadier air at suburban sites was superior. To observe dim objects like galaxies and nebulae, and for





astrophotography the dark skies at BMO is the place to be. Speaking of Michael, he was the subject of Edith Geiger's profile, and he provided the lone observation report in that SPECTRUM. Another eager observer, Carl Milazzo, submitted an article on "Visually Seeing the Arms of Galaxies" in which he compiled a large list of objects for viewing.

25 YEARS AGO - In November 1974 the BAA's Walter Semerau spoke own "Recent Activity on the Sun". Walter was a renowned craftsman and solar observer. December's meeting was entitled "Golden Oldies". It featured several classic astronomical films made over 40 years earlier. The SPECTRUM carried an article authored by "a concerned friend" in which a plea was made for our membership to provide financial contributions to aid in the forthcoming building of Beaver Meadow Observatory.

35 YEARS AGO - Ernst Both was our November 1964 speaker; his topic was "Solar Activity". We planned to observe with the museum's 8 inch refractor telescope following the meeting.. At our Christmas meeting Ron Clippinger spoke on the problems associated with observing. His talk was followed by Edith Geiger's pictures taken at summer star parties. How's that for a long-standing tradition?

Rowland A. Rupp

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## Will Members Use the Site at Beaver Meadows Observatory?

This is in response to the excellent article by the observatory director Neil Dennis, in the March-April Spectrum, page 7. The reasons are many, why so few of the 140 members use the observatory on a regular basis. The following are some of the reasons. ( 1) Most of the club's best members, had no choice but to purchase their own quality equipment and observing site. At least nine have scopes in the 17 1/2 inch to 30 inch range. Others have their own camera, camcorder, and CCD detector. Without these experts out at the Beaver Meadow observatory, the newer members have no mentors to learn from, by watching and asking questions, and to gain hands on experience. ( 2) The site is usually plagued with fog, lake effect clouds, bugs, or dew, and most optical surfaces have no anti-dew devices attached to them permanently. ( 3) The observatory has six equatorial mounts which are inconvenient to use, because they are not set up on permanent piers. They are without power outlets, polar alignment, and chart tables. Some scopes need a three legged ladder. (4) With the club now having nine scopes, we have developed a shortage of filters and eyepieces. (5) Some of the red lights, have no shades to prevent glare, and no dimming control. ( 6) The tall trees on the south horizon, block out the view of Sagittarius and Scorpius many times. (7) Half of the Saturday evenings at the observatory are taken over by the public, from spring to fall, which discourages members from using the facilities. What if we were to setup a members only observatory elsewhere up Welch road at Beaver Meadow, or in the northtowns? (8) Often the roof can't be opened in the winter because of problems with snow and ice on the rails. (9) Some members would like to do research, but the club lacks the equipment. (10) Some members wished we had a car pooling system, or an observatory closer to Buffalo, to observe the moon, planets, sun and double stars, and for workshops. These problems all have solutions, and more than one solution. With quality leadership, and wisdom, the members could see progress in 1999, and a much larger membership attendance at the observatory.



## PROPOSED BY-LAW CHANGES

The BAA's Board of Directors authorized a committee to investigate changes to the club's bylaws. This committee of approximately eight volunteers met on September 21 and 23 to recommend changes. The following changes were reviewed and approved at a Board meeting held on October 8, 1999. They will be voted upon individually at the next general meeting following receipt of this notice.

### Article 1 - Members, Section 7

Insert before the last sentence:

Absentee ballots shall be permitted for the election of officers and for the election of Board members-at-large.

Comment - This addition makes clear that absentee ballots will be accepted for elections.

### Article 2 - Board of Directors, Section 1, Paragraph A

Re-write entirely:

Three statutory members, all of whom shall be members of the B.A.A., shall be:

1. A Fellow nominated by the College of Fellows and confirmed by a majority vote of the voting membership.
2. The second shall be the Observatory Director nominated by the Board of Directors and confirmed by a majority vote of the voting membership.
3. The third shall be the Editor of the association's newsletter, THE SPECTRUM, nominated by the Board of Directors and confirmed by a majority vote of the voting membership.

Comment - This change eliminates the position formerly held by the Curator of Astronomy at the Buffalo Museum of Science or a research associate at the museum. Both of these positions have been terminated by the museum.

The change also adds the stipulation that nominees for the position of Observatory Director and Editor of the SPECTRUM will be confirmed by the membership.

### Article 2 - Board of Directors, Section 1

Re-write entirely the final paragraph:

All the directors shall be members of the B.A.A., of full legal age, residents of the State of New York and a majority shall be citizens of the United States. New board



members shall assume their position at the start of the upcoming fiscal year.

Comment - Adds the requirement that all Board members must be members of the BAA.

Defines the time when newly elected Board members assume their offices. This procedure has been long followed by the BAA, but was not clearly defined.

Article 2 - Board of Directors, Section 8  
Change "appoint" to "nominate".

Comment- Makes the procedure for selecting the Observatory Director and Editor of the SPECTRUM compatible with the change to Article 2, Section 1.

Article 3 - Officers, Section 2  
In the first sentence of the third paragraph insert the words "complete and" following "shall maintain".

Comment - Changes the Treasurer's requirement from keeping "accurate records" to keeping "complete and accurate records".

Article 7 - Amendments, Section 1  
In the last sentence, substitute the word "effect" for the word "affect".

Comment - Language correction.

Article 8 - Indemnification  
Add this article pending legal review:

To the fullest extent permitted by law, the B.A.A. shall indemnify its members, directors and officers from and against any and all manner of claims, damages, losses and expenses, including but not limited to the necessary expenditure of attorney's fees, arising out of or resulting from the discharge of B.A.A. business or the participation in B.A.A.-sponsored activities. Provided, however, that this duty of indemnification is in all respects subject to and limited by the existence and extent of the B.A.A.'s applicable insurance coverages, and that it shall not extend to protect a member, director, or officer who has acted dishonestly or in bad faith with respect to any matter for which indemnification is sought.

Comment - This addition enables any club member who is exposed to a suit for damages that occur while he or she is engaged in club business to have legal counsel provided by the BAA's insurance carrier, and to extend the insurance to cover the damages.



**NEWS LETTER OF THE BUFFALO  
ASTRONOMICAL ASSOCIATION  
INC.**

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Merry Christmas !!!!

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