

# THE FOCAL POINT

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The Newsletter of the Atlanta Astronomy Club

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## CLUB CALENDAR

**Next Meeting:** December 9, 8:00 p.m. at Bradley Observatory.  
**Program:** Leonard Abbey will present a talk entitled "A Compleat Historie of Astronomy in ye Kudzu Kapital." An observing session will be held on the upstairs deck after the program, weather permitting.

**Editor:** ..... Steve Gilbreath  
**Contributing Editors:** ..... Dr. Ralph Buice, Hal Crawford,  
Richard Jakiel, Mark Lancaster

The **Focal Point** is published monthly during the academic year by the Atlanta Astronomy Club, Inc. The AAC is a non-profit organization dedicated to the advancement of amateur astronomy. Meetings are held the third Friday of each month (except the second Friday in December) at the Bradley Observatory on the Agnes Scott campus. Dues are \$25 annually for a single membership and \$30 for a family membership and include a subscription to *Sky & Telescope* magazine and use of club observatory in Villa Rica.

**Submissions:** Article submissions are welcome, and may be delivered to the editor for consideration. Articles on computer floppy disk are encouraged.

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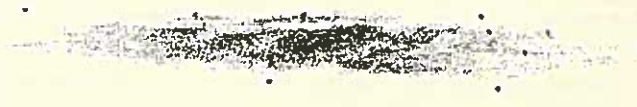
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## OBSERVER'S CORNER

by Richard Jakiel

The "Sculptor Group of Galaxies", also known as the "South Galactic Pole Group", is a collection of large, low surface brightness galaxies. This is one of the closest cluster of galaxies, lying at a distance of 9.5 million light years, or only about four times farther than M31. However, because of their deep southern declination in the visually sparse autumnal skies most of the members of this group are poorly known by amateurs. Only NGC 253 has achieved "show piece" status due to its high brightness and more northerly location (-25.5 degrees) as compared to other cluster members. NGC 253 is a spectacular object, in even relatively small telescopes, measuring 22 minutes by 6 minutes, and at 7.5 magnitude it ranks as the fifth brightest galaxy. In binoculars it is a wispy streak nearly as wide as the moon, becoming an intricately structured object with numerous dust lanes and H II regions visible in large amateur telescopes.



NGC 253

Lying about 1.5 degrees southwest of NGC 253 is a loose globular cluster, NGC 288. Visible in small telescopes as a 7.2 magnitude smudge, it resolves into a relatively sparse cluster of 12th magnitude and fainter stars. In the club's 20 inch scope nearly one hundred stars are visible strewn over a field over 10 minutes across. Another member of the Sculptor Group, NGC 247, is about 4.5 degrees due north of NGC 253. This galaxy, although nearly as large as NGC 253, is much fainter, and even in the 20 inch little detail is visible. This is a difficult galaxy in small telescopes and I recommend low magnification and high sky transparency before making an attempt to ferret it out.

Located at the very low declination of -39.2 degrees is NGC 55, another huge, fairly bright galaxy. Larger than NGC 253 and nearly as bright (7.5 magnitude), this galaxy barely clears the horizon from northern latitudes. I remember searching in vain along the jagged tree line from my Fredonia, New York observation site to catch a glimpse of this nebulous giant. Using Rick Clark's 17.5 inch telescope, this galaxy appeared as a nebulous swath of light at moderate surface brightness with several

brighter "lumps" (giant H II regions) visible. Photographs by giant southern telescopes reveal a large, edge-on SD galaxy (possibly an irregular) well resolved into stars and nebulosity. In fact, it has an uncanny resemblance to wide angle shots of the Milky Way, an observation that has fooled more than one professional astronomer when questioned about its identity.



NGC 247

Nearby and at nearly the same declination is NGC 300, a large, loose spiral of the M33 type. This galaxy is extremely large (21 minutes by 14 minutes) and has very low surface brightness. In the 17.5 inch scope a bright core region was distinctly visible with extremely diffuse spiral arms evolving from the nuclear area. Faint H II regions helped to delineate the arms in a similar manner to those found in M33.



NGC 300

The last major galaxy of the Sculptor group is NGC 7793, which unlike most of the other members is quite small and of fairly high surface brightness. Measuring about 6 minutes by 4 minutes, and 9.5 magnitude, it is fairly easy to see in small telescopes.

On a different note: Now that "Mars Fever" is dying down,

I believe it is time for a summary of events. Please submit copies of Mars drawings to:

Richard Jakiel  
6640 Akers Mill - Apt 22T5  
Atlanta, GA. 30339

All copies will be faithfully returned and a selection of the most interesting will be published in an upcoming issue of the Focal Point.

### LIGHT POLLUTION REPORT

by Tom Buchanan  
Light Pollution Committee Chairman

Letters were written on behalf of the Atlanta Astronomy Club to a number of outdoor advertising companies in Atlanta that use uplighting on billboards. The letters invited a company official to a Club function, explained the problems caused by uplighting, and suggested the following actions within the Atlanta Metropolitan area:

1. Install no more uplighting.
2. Turn off all billboard lights at night except those that advertise businesses that are open at night.
3. For those businesses that are open only part of the night, install time switches on the lights to turn them off at the hour the business closes. Savings in electric bills would soon pay for the timers.
4. For billboards that advertise night businesses, set luminaries at the top of the billboards.

Responses were as follows:

Company A said they "can't accommodate" the requests of the AAC because (1) top lights are more costly and less effective than bottom lights, (2) twenty per cent of their revenue is for exposure of the signs at night; they advertise at night to increase exposure for businesses open the next day; (3) Georgia Power charges a base rate rather than a kilowatt rate for sign illumination, so that no saving on the electric bill would occur for lighting off part of the night; adjusting timers for varying hours of darkness is expensive and labor intensive.

Company B said they use the standard lighting of the

*continued on page 4*

## HOW TO CLEAN MIRRORS AND LENSES

by Leonard Abbey

This is presented as an effort to assist those who have never had occasion to perform the delicate task of cleaning telescope mirrors and lenses.

The best advice on cleaning mirrors and lenses is....(you guessed it) DON'T. But if things are so bad that you must, do it as follows:

### For Mirrors

1. Blow all loose dirt off with "Dust-Off" or another canned clean air product. Take care not to shake the can while you are using it, and be sure to release a little air before using it on the optical surface. This will assure that no liquid is dispensed to make things worse!
2. Prepare a very dilute solution of mild liquid detergent (Dawn).
3. Rinse the mirror off under a moderate stream of luke-warm water.
4. Make a number of cotton balls from a newly opened package of Johnson & Johnson sterile surgical cotton, U.S.P. Soak 2 or 3 balls in the detergent solution. Wipe the surface of the wet mirror. The only pressure on the cotton should be its own weight.
5. Throw cotton balls away.
6. Repeat process with new cotton balls, using a little more pressure.
7. Rinse mirror thoroughly under tap, which has been kept running for this step.
8. Rinse mirror with copious amounts of distilled water (do this no matter how clean your tap water is).
9. Set mirror on edge to dry, using paper towels to absorb the water which will all run to bottom of mirror. Keep replacing paper towels.
10. If any beads of water do not run to bottom, blow them off with Dust-Off.
11. Replace mirror in cell, being careful to keep all clips and supports so loose that the mirror can rattle in the cell if it is shook. (Perhaps .5 to 1 mm clearance).
12. Spend the next month realigning your scope.
13. If you do anything more than this, you will damage the coating, and maybe the glass.

### For Objective Lenses

**Do not under any circumstances remove a lens from its cell, or the cell from the telescope.** This restriction means that the above procedure must be modified. Only the front surface can be cleaned. If you remove the cell from the telescope, you will be in big trouble. There are probably not more than 25 people in this country who can effectively collimate a refractor!

1. Blow loose dirt off with Dust-Off, using the above precautions.
2. Soak the cotton balls in a 50:50 solution of Windex and water. Squeeze slightly so that the balls are not dripping wet.
3. Wipe front lens surfaces with the wet cotton. Follow immediately with dry cotton, using little or no pressure.
4. Repeat procedure, using slightly more pressure.
5. If some cotton lint remains on surface, blow off with Dust-Off.
6. Repeat procedure if lens is not clean, but if one repeat does not do it give up and leave it as is.
7. Inspect lens to make sure that no cleaning solution has found its way into the lens cell, or between the elements. If this has happened, leave the telescope with the lens uncovered in a warm room until it is dry.

### For Eyepieces And Barlows

Follow the procedure given for objective lenses, but use Q-Tips (with plastic sticks) instead of cotton balls. You may, of course, clean both surfaces. The eyebrow juice on the eye lens of eyepieces may require repeated applications. I think that this is OK in this case.

### Some Don'ts

1. Do not use any aerosol spray product, no matter who sells it, or what their claims are.
2. Do not use lens tissue or paper. It does scratch.
3. Do not use pre-packaged cotton balls, they frequently are not cotton.
4. Do not use any kind of alcohol.
5. Do not use plain water.
6. Do not use any lens cleaning solution marked by funny companies, like Focal, Jason, Swift, or even Edmund's. Dawn and Windex are cheap and commonly available.

**LIGHT POLLUTION REPORT**  
*continued from page 2*

industry as represented by the Outdoor Advertising Association of America; luminaries at the top of a billboard cause shadows across the sign in the daytime which customers do not like because it distorts the shading and colors of the sign.

Company C is not interesting in meeting with representatives of the AAC unless the AAC is interested in coming up with the funding for changing the billboard lighting system.

The Company D official said he remembered the letter very well, said he was not interested in astronomy, then hung up suddenly while I was starting to ask about reducing the use of uplighting. I never got the chance to tell him as a courtesy that his response would be reported to the Club.

The Company E official expressed sympathy to the problem that light pollution poses to astronomy, but pointed out that his outdoor advertising company is small compared to the three giants of advertising. He says that illumination is as important to Company E's Business as magnifying equipment is to astronomers.

One of the companies, which does not conduct business at

night, said that illuminated advertising at night is similar to advertising on television at night during prime time.

**HELP NEEDED.** If any specific uplit signs billboards interfere with your astronomical observations at either your home or your regular observing site, please give Tom Buchanan the following details.

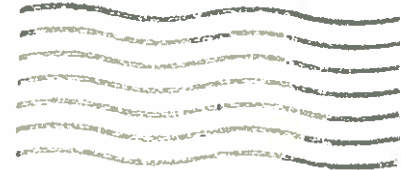
What is advertised.

Where the sign is located: which street it faces, the nearest cross street or street number.

The advertising company.

Some of the companies indicated that problems with specific illuminated billboards would be considered.

Crusading against light pollution appears to be a David vs. Goliath battle. We who appreciate and study astronomy can and must reclaim the night sky.



**THE FOCAL POINT**

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