

The Shoreline Observer



*Newsletter for the
Shoreline Amateur Astronomical Association*

President- Mark Logsdon

Vice President- Gary Stroven

Secretary/Treasurer- Phil Sherman

Robert Wade, Editor

June 1993

June Meeting

The June meeting of the Shoreline Amateur Astronomical Association will be held on Thursday June 17, beginning promptly at 7:00 PM in the multipurpose room in Pine Creek Elementary School, 1184 N. 136th Ave., Holland, Michigan. If you are interested in having dinner with the speaker before the meeting, contact Pete or Mark.

- Refreshments, courtesy of Mark Logsdon.
- Astronomical Workshop conducted by Professor Lawrence Oppliger and Pete Burkey.

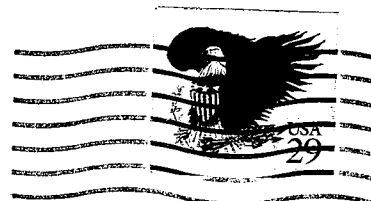
Board Meeting

Mark called the meeting to order at 7:00 P.M. on March 27, 1993. Phil, Gary, Larry, Arlin, and Pete were also present.

Treasure's Report: \$ 236.77

Details for the June meeting were discussed. See above. Mark is also planning on hosting a Star Party Friday, June 18th. Please call ahead (399-3448) to confirm.

3882 62nd Street
Holland, Michigan 49423



Welcome new SAAA members Jeff Oedemolen and Mike Henry!

Meeting adjourned at 8:45 P.M.

Respectfully submitted by Mark Logsdon

Astronomical Terms 3

Here is the last installment of our Astronomical Terms short course. Bring this sheet to your next star party and baffle your astronomical friends. This is shareware. If you like it send \$10 to the author [Ed. note: He wasn't brave enough to add his name

to the file.] and he'll do another installment. If you don't like it, send me \$40 and I won't publish another installment.

1. Ecliptic: (a) Shortened time signals from WWV. (b) Endangered species of tic that mates only during eclipses. (c) Apparent yearly path of the Sun against the background stars.

2. Einstein Shift (a) The redshift of spectral lines emitted from within a strong gravitational field. (b) A spatio-temporal obfuscation. (c) Inverse Doppler shift.

3. Electra: (a) An old style of Buick. (b) Daughter of Agamemnon and Clytemnestra. (c) 17 Tauri, in the Pleiades, Magnitude 3.7.

4. Elongation: (a) A problem with some of our meetings. (b) An aberration typical of poorly collimated refractors. (c) Angular distance between the Sun and a planet or the Moon.

5. Elysium Fosse (a) A new type of dental floss. (b) Woman astronomer at the Crimean Observatory Russia, at the turn of the century. (c) Aligned valleys crossing the flanks of Elysium Mons on Mars.

6. Emission nebulae (a) Latin phrase meaning "a vague task" (b) A glowing cloud of gas emitted from a quasar. (c) Clouds of gas which are seen because they emit light.

7. Enceladus (a) A large icy moon of Saturn discovered by William Herschel in 1789. (b) Spicy Mexican food. (c) Town in southern Baja California on the solar eclipse centerline.

8. Ephemeris (a) Synonym for variable star. (b) Small satellite of Neptune. (c) Tables of predicted positions of the Sun, Moon and planets.

9. Epicycle (a) Two wheeled unicycle. (b) Period of eclipsing variable stars. (c) Concept once used to explain planetary motion.

10. Epoch (a) Astronomical instrument manufacturer in Hayward. (b) A particular instant of time selected for reference purposes, so that data may be

compared. (c) Congratulations for reading all the way to the end.

Answers: 1. (c) 2. (a) 3. (a,b,c) 4. (c) 5. (c) 6. (c) 7. (a) 8. (c) 9. (c) 10. (a,b,c)

May Star Party

Clear skies held Friday, May 21 for a star party at Mark's house. A near perfect night - no moon and superb skies. Pete, his son and friend, Phil, Arlin, and Mike joined Mark for 3+ hours of observing.

As darkness fell, Jupiter was targeted. All four Galilean satellites were visible, with one very near Jupiter's limb. A check with the May issue of *Sky and Telescope* determined that Ganymede, Jupiter's largest moon, was about to transit, or pass in front of, Jupiter's disk. Pete and Mark trained telescopes on this event until Ganymede disappeared onto the face of Jupiter, leaving only the other three major moons visible.

Various highlights of the spring sky followed: M81 and M82, a nice pair of galaxies in Ursa Major (no hint of the recent supernova in M81); M104, the Sombrero Galaxy, with its distinct form visible to us from a distance of 40 million light years in the constellation Virgo; M57, the Ring Nebula, in Lyra also showed beautifully. We also scanned two outstanding globular clusters - M3 in Canes Venatici and M13 in Hercules. M13, a ball of 1 million stars, took on a granular appearance in Pete's 10" Dobsonian.

Other objects observed included Mars, the Beehive Cluster (M44), and the stars of Coma Berenices. Three decent sporadic meteors also streaked across the sky during the evening.

Thanks to Mike for the pizzas and Arlin for other refreshments. Our session came to an end around 12:30 a.m.

LED Star Lights

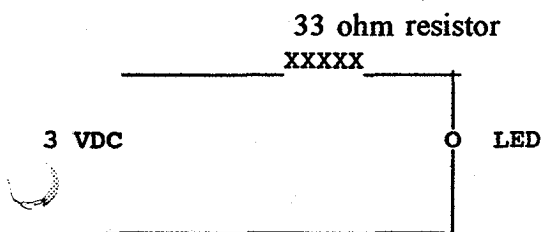
by Kevin Gill
Cave Creek, AZ

Everyone knows that one's night vision, once obtained, is precious to the astronomer. Hence the

use of red light for required seeing around the observation site. The purer the red the less destructive it is to one's night vision. This was usually accomplished by painting the flashlight bulb with red nail polish producing varying results. Over the last few years the use of LED (light emitting diode) lights has become popular and with good reason. The red is very pure and the power consumption is low thus extending battery life to its maximum. However the \$20-\$30 price tag has not been overly attractive.

Well after searching electronics and hardware stores and I was able to build a few different configurations for between \$3 to \$8. The difference in cost directly attributed to the intensity of the light.

The general procedure is to take a standard flashlight and replace the standard incandescent bulb with a red LED and resistor circuit (shown below).



Radio Shack sells a variety of LED's ranging from 5 to 5000 mcd (millicandelas - a measure of brightness) that should fill all your observing needs with 500 mcd being the minimum for outdoor use.

A LED will only light when current is applied in the correct direction. The long lead is positive.

The best light I was able to obtain was from Radio Shack called Slider by Phillips (\$1.99 on sale). It has a large efficient reflector handy on-off switch and best of all soldered wire leads to the bulb. These connections made it a snap to add the resistor instead of having to deal with those funky spring clip arrangements on most lights. Simply remove the bulb and super glue or epoxy (or both) the LED in place solder the connections and you have a pure red star light for a low price that will last.

Slider Flashlight	\$2.00
2000 mcd LED	\$1.69
100 ohm resistor	\$0.15

If you need more light they have a 5000 mcd for \$4.99.

The Slider Lite is 4.5 Volts. Below is the resistor values for various voltage configurations.

3 VDC	33 OR 47 OHM	1/4 watt
4.5 VDC	100 OHM	1/4 watt
6 VDC	150 OHM	1/4 watt
9 VDC	270 OHM	1/4 watt
12 VDC	390 OHM	1/2 watt

Other possibilities are LED's over your setting circles or lens rack powered by a common battery located on your mount or tripod. Variable resistors (potentiometers) added to the circuit to adjust the brightness. Inexpensive pure red light at your disposal. Use your imagination.