

Minutes of the September 24, 2011 Meeting of the Charlie Elliott Chapter of the AAC

The September 24th meeting of the Charlie Elliott Chapter of the Atlanta Astronomy Club was held in the CEWC Visitor Center in Mansfield, GA at 5 PM with thirty people in attendance for our quarterly potluck dinner.

Clay Turner gave the feature presentation "Astrophotography: Tips, Tricks and Techniques". The topics explored ranged from afocal and piggy back photography to seeing, sampling, tracking, stacking, flats, darks & biases.

Art Zorka gave an overview of Astronomical League observing programs and Theo Ramakers gave an update on chapter outreach events. Since the last meeting, the club had three school events reaching over 540 students. There will be nine events in October. Please check the chapter calendar at ceastronomy.org for details and let Theo know if you can help at any of the events.

Observing supervisor Steven Philips gave the monthly "Observing 101" talk, a highlight of current sun, moon and planet rise & set times, and observing targets.

Notable events visible during October 2011: Zodiacal light visible in the east before dawn until mid-month; supernova 2011fe in M101 begins to fade; asteroid Ceres travels through southeastern Aquarius; comet Garradd moves slowly through the constellation Hercules.

Small Telescope/Binocular Target List for October: double stars Albireo (gold/blue), gamma Delphinus (lemon/lime); galaxy: M31 (Andromeda); globular clusters M2, M15 & M22; planetary nebulas M27 (Dumbbell) & M57 (Ring); open clusters NGC6633, M11 (Wild Duck) & M39; and the diffuse nebula NGC7000 (North America Nebula).



North America Nebula (left) and
the Pelican Nebula (right)
from atlasoftheuniverse.com

As a bonus presentation, Steve gave an overview of binocular basics & how to select and use them.

- **Why use Binoculars?** Binoculars are a great tool for beginners – A good "1st scope". Binoculars are versatile – also good for bird watching, looking at sailboats, sporting events, etc. Binoculars are more intuitive and act like a natural extension of the user's eyes. Images seen in binoculars are not "upside down" or reversed left to right. A pair of binoculars can help familiarize a novice observer with the night sky with a minimal investment.
- **Binocular Basics - Selecting the right pair.** The best choice for hand held is no smaller than 50mm for adequate light gathering and no larger than 60mm due to weight considerations. Magnification should be 10 power or less for hand held use. Fixed magnification binoculars are preferred and provide a field of view 50% greater than zoom binoculars. BAK4 prisms (Barium Crown Glass) are the highest quality available. Optical coatings, eye relief, and exit pupil are always important considerations
- **Binocular Basics – Coatings.** Coatings reduce light scatter and flares from bright objects. They also increase image contrast. The best binoculars have "fully multi-coated" optics - this means that every optical (glass) surface is coated with multiple layers of magnesium fluoride. "Fully coated" optics have a single layer of magnesium fluoride on every optical surface. "Fully multi-coated" optics have a green hue while "fully coated" optics have a light blue hue. Binoculars with ruby red objective lenses filter red from the color spectrum to compensate for poor quality optics. They also give astronomical objects an unnatural greenish cast – buy a better pair.
- **Binocular Basics – Eye Relief.** Eye relief is the distance you need to hold the binoculars away from your eye in order to see the full field of view. Eye relief values range from 8mm to 23mm. If your binoculars have short eye relief you cannot see the full field of view with eyeglasses. Users who do not wear glasses are usually comfortable with 12-13mm of eye relief. Users with eyeglasses should choose binoculars with at least 19-20mm of eye relief. The design of the rubber eyecups should also be considered.
- **Binocular Basics – Exit Pupil Diameter.** Exit pupil is the diameter of the light shaft entering your eye and is measured in millimeters. Exit pupil size roughly equals the size of the objective lens divided by magnification. (A pair of 10 x 50mm binoculars will have a 5mm exit pupil.) A larger exit pupil is generally more desirable for astronomical binoculars since our eyes dilate in the darkness. A wider shaft of light makes the image appear brighter because more light hits your retina. Caveat: Your age is also a consideration because as we get older the pupil will dilate less. People under 30 can usually achieve 7mm of dilation. People in their 50's or 60's have a maximum dilation of about 5mm.

Skies were beautifully clear after the meeting and lots of scopes and binoculars made it to the new "Jon Wood Astronomy Field" where a large group of students and parents of the Stone Mountain Middle School joined us for observing.

The next meeting of the chapter will be Saturday, October 22, 2011 at 4 PM.

Respectfully submitted,

Marie Lott

CE Recording Secretary