

2009-09-01

Delmarva Stargazers Meeting Notes.

16 present

Show and tell:

- Don has acquired an iron meteorite and a 1987 Celestron comet catcher. The meteorite was passed around with a very strong magnet for the skeptical. The meteorite was a good sized specimen about 4" long and 3" wide (as I recall).
- Don noted the Galileo exhibit and all the wonderful brass instruments. Spend three hours at it, well worth it. (Ed: It's gone now, but was a great show and included Galileo's telescope #2 which you could look through. Many maps, astrolabes, longitude finders, etc.).
- Gabe Jennings, our youngest participant, gave a good account of his viewing: Jupiter, the Ring Nebula (M57), the Andromeda galaxy (M33), Venus, and two open clusters.
- Not much observing has generally gone on this summer mostly because of the clouds. For example Jerry Truitt used his 4 1/2" a couple of times.

Felton outreach (Felton Family Fun Day – FFFD):

- Participants: Kathy Sheldon, Don Surles, Jerry Truitt and Michael Lecuyer.
- Don (first to arrive) couldn't find anyone who knew where we to set up so he picked a nice spot by a tree.
- Several people were interested in the telescopes and looked at the blank sun through white light filtered telescopes and an H-alpha telescope.
- Don thinks it was not for us, in that astronomy needs darkness. (Ed: I don't agree. There were a number of curious people).
- After a little while we were asked to move since we had inadvertently set up in the dog training display area. It would seem the town of Felton has understaffed and couldn't coordinate proper booth placement. Rather than move everything we decided to go home.

Outreach:

- Lyle Jones announced an outreach on Nov 4<sup>th</sup> at Dover Public Library (at night!). Members and telescopes are welcome. Nasty lighting in the parking lot though. (see Lyle Jones and the web site for more info)
- Joyce Paterson (not a member) in Easton who would like instruction on the use of her telescope. Keith Lohmeyer says he will contact her since he lives fairly close.

Don Surles – How to place a center dot on a primary mirror:

- Using an example 6" mirror we will need a ruler, Sharpie, sheet of paper, compass, and paper reinforcement ring.
- Get the exact diameter of the mirror, close to 6" and use a compass to draw this size on the paper (or trace the mirror).

- If using a compass the center will be marked with a hold. If tracing folding the paper in half and then half again to a triangle shape will identify the center.
- The circle is cut out and placed on the mirror. The hole may have to be enlarged for the marker to penetrate. Center the paper on the mirror and mark the center well, with considerable over-marking to make sure. Lift the paper gently.
- Then using a mechanical pencil or some such thing and lift the re-enforcement ring with the lead so when end of the lead is lined up with the mark. Drop it on. Be very careful not to touch an aluminized mirror with the pencil.

#### No Frills Report:

- Registration is slower than normal
- Dave Wells thinks we should have done a mail out. Or it may be the increased price. Or it may be the past weather (this years extended cloudiness and the past few star parties).
- Need a sign for registration giving the hours like 10-11, 3-4. Maybe in the evening as well.
- Port o Johns. Two regular one handicapped. Keith Lohmyer will take care of this.
- Keith will also replace one propane cylinder.
- Tom Pomponio & Kathy Sheldon will take care of shopping.
- Dinner – Jerry Truitt on Thursday, Friday Dave Wells, and Saturday fish fry with Don Surles with Lyle Jones helping.
- Don will get the hushpuppy stuff and cooking oil.
- The new propane cooker shuts off automatically and is hard to control. Needs work or replacement.
- Defrost the fish (buy them on Thursday)
- Setting up on Thursday – need help
- Don will bring many stainless steel cups (which may disappear) and hand sanitizer (not provided with the potties)

#### Jerry Truitt on the constellation Cygnus:

- His presentation starts with a cleverly animated flying swan.
- Cygnus X-1 (bright X-Ray source), is visible in small telescopes. (Ed: it's a binary system of the supergiant star HD 226868 and a black hole. The star is visible with small telescopes at Mag 8.8 near Eta Cygni).
- This constellation is easy to see as its namesake and it looks like it's travelling down the milkyway. There are many myths.
- Northern Coal Sack – quite obvious as a dark lane in the middle of Cygnus.
- Veil nebula (NGC 6960) and the Eastern Veil (NGC 6992/95), (Ed: also known as the Lacework nebula)
- NGC 6819 (M29) small loose open cluster, (Ed: also called the 'cooling tower')
- Pelican & North American nebula. These are very large and need dark skies.
- NGC 6871 - very loose open cluster (bright and dim stars)
- IC 1318 Gamma sigma region (Butterfly Nebula)

#### Cal Estrada on astro photography:

- At Dupont – saw an astronomy calendar and met Don Surles.
- Introductory level of astrophotography – Relatively simple and inexpensive
- shoots using a Cannon 400D Rebel Xii
- 1600 ASA on bulb (for long exposures and isolation from camera).
- Uses an Astrotec reflector - Large aperture fast f, no chromatic aberration, affordable
- No laptop required
- No guiding required (no AG mount, separate guidescope)
- Astro-Tech reflector, telrad, Sirius mount.
- Coma corrector.
- Notch filter to take the orange tint out of the images.
- Toughest part is aligning and collimation.
- Focusing is a challenging with a DLSR. Use a Hartman mask (three round holes) which gets close to focus.
- Level tripod, balanced telescope.
- Polar align (drift polar alignment method). Illuminated reticule for alignment using a 12mm eyepiece with a Klee Barlow (shorty at 2.7X).
- Light frames (lots of pictures, jpg, maybe raw image). Raw images are large and take a lot of time to process with stacking software (all night or days). Smaller formats are faster to process (still slow).
- Desirable but not done -, Dark frames and Bias frames.
  - Bias frame cover scope, at high speed, 2000<sup>th</sup> of a second. (Ed: bias frames only contain noise from the CCD reading and not noise from long term charge accumulation).
  - (Ed: Dark frames allow the software to discard ‘hot’ pixels and correct areas in the frame where heat generated by the electronics shows up.)
- Throw away the ones you don’t want, keep the good ones. Ratio of good to bad? 1/3<sup>rd</sup> to 1/2 are usually good.
- For dim objects: 14 images at 30 seconds each.
- Need time & patience and lots of pictures.
- Looking for images with good signal to noise ratio (SNR).
- Optional coma corrector, light pollution reduction notch filter (Ed: some are broad band and some are notched – blocks emission lines (mercury, sodium lights but not continuums like incandescent’s)
- Photofinishing Effects: Sharpening, adjust histogram.
- Deep sky stackers
- 8 or 9 exposures with cover on telescope dark.
- Flat field (light boxes) or shoot at dawn with a tshirt over the scope (uniform brightness) same as the regular exposure. Daytime sky is too bright.
- Normally uses about medium format.
- Q. why not stack the same image 30 times rather than thirty different images? A. Stacking removes the noise from the different images. A single image stacked would have no noise to remove.

Raffle:

- Drawn for a 13mm RKE Eyepiece. The Secretary won but was also holding the bowl so he bowed out. Since the secretary was involved instead of taking notes I don't know who won.