

Delmarva Stargazers Meeting
June 1 2010

Upcoming events:

- No Frills Star Party Oct 7-10
- Christmas party: Dec 11, 2010
- MMS Marsh 11- 13

Meeting started at 7:04

Last meeting with Don Surles is President. Jerry Truitt will become the new President at the July meeting.

Current events:

- Two events at blackbird forest. Well attended with tailgate party.
- Dave Wells was in S Dakota.

4th July celebration (actually July 3rd) for the summer party:

Don Surles house at one o'clock on Saturday 3rd. 514 Marilyn Road, Smyrna, DE. The new officers will be installed in office.

Discussion: New meeting place and how to use it

- We might be meet to visit remote observatories via the internet some Saturday.
- Karen Jennings might be able to set up an observing session with a facebook friend with telescopes in Australia, SA, an other places.
- Other potential – NASA representative and other astronomers that can teleconference with us. Virtual presentation with chat for presentation.
- Could use Skype - it limits contacts to 5 concurrent people.
- NASA has a speaker's network that would work well with the technology this room has. All missions have a contact person which uses SKYPE (common to NASA personnel). Craig Nance in Hawaii is also a contact (works on telescopes up there).

Astro words:

- Yeds – arabic for hand Yed Prior(delta) Yed Posterior (epsilon).
- **Cynosura** – ancient name for Ursa Minor, means 'dog's tail' The sky seems to revolve around this part of the sky.
- Tessera – type of surface found on Venus. A rugged elevated tract extending for extending for several thousand kilometers. (Ed: tesserae – “many layers of superimposed faults (cracks) in the tessera give it an unruly, chaotic appearance and indicate it tht id ash been compressed and extended many times from many directions – David Grinspoon “Venus Revealed”).
- Selenography – study of the moons physical features.

- Geoid – the form the earth obtained from taking the mean ocean surface and extending across the continents. (Ed. The smooth but irregular surface that corresponds to the equal potential of gravity.)
- Oblateness flattening at the poles. Fraction of the 1 / fraction of e-w / n-s distances).

Saturn – 1:9.5, Jupiter -1:16, Venus and Mercury appears to round. We don't know about Pluto. Gas giants and speed of rotation affect Oblateness. The sun is less than 1:1000 and the moon is 1:900.

- Collimate – aligning the optics of a telescope
- Culminate – when constellations reach the highest point in the sky.

Constellation facts:

- 88 constellations
- Ptolemy described 48 constellations
- Hevelius added 7
- Bayer added 13
- Lacaille added 14 southern constellations in 1750-54 on an expedition to the Cape of Good Hope.
- 15 men & women
- 1 head of hair
- 9 birds
- 1 insect (Musca)
- 22 land animals

The newsletter editor, Paul “PJ” Riley started a conversation about the viability of the newsletter since it doesn't get many submissions. Observing reports go to Yahoo Groups.

What's RA and Dec?

Star hopping

Novices, intermediate, advanced star gazers.

Come up with a topic and see if someone can look at it.

Presentation by Tom Pomponio:

How GO TO telescopes work.

- Computerized systems to find and track night sky objects.
- Have self contained data bases of object and no computer or charts are necessary
- Align using time date, location and manually centering on one or more stars to create model of the local sky.
- Use sensors 'encoders' to know where the telescope is pointing.

- Use the differences in current RA and Dec to Go To the selected objects for the database.
- Accuracy depends on how well the scope is aligned. (best to use an illuminated crosshairs eyepiece to perform the alignment on the star). Lots of Internet guides on how to align.
- Discussion interrupted on specific problems people have with alignment and sloppy encoders, adjust arms, wobbly dobs.
- Goto systems databases variable between 30,000 and 270,000 objects, many are not visible in the scopes but the count's sell the systems.
- StellarCat's Go To system for Dobs, used by Jean-Paul, uses Argo-Navis digital setting circles about \$1,300. The encoders are not attached to the motors so the telescope can be pushed around without losing the positioning.
- Features and advantages: Easy to find faint objects
- Meade's Spiral Search seems to be helpful if the scope is not well aligned (bumped lets say).
- Can be synchronized with laptops
- Periodic Error Correction – PEC training – to eliminate gear geometry manufacturing errors as well as geometry errors between the tube and mount. Can really become accurate after enough 'learning'.
- Park and Sleep – put it away and it retains its information when it wakes up (if the telescope isn't moved).
- Some can perform satellite tracking.

- Disadvantages
 - A lot of setup required – sometimes hard to find alignment stars after it's really dark,
 - Batteries required
 - Noise – some mounts make loud noises reminiscent of bees and coffee grinders.
 - Training drives takes some time for backlash compensation
 - Adds extra weight to mount. Might require rebalancing after a camera or eyepiece change or drive may not work at all.
 - There are kits to improve these mechanisms
 - Can take short duration pictures.
 - Longer exposures may be degraded by the stepper motor vibrations and field rotation (if an alt-azimuth mount is used).

- Web Resources
 - Mead Autostar <http://www.weasner.com/etx/menu.html>
 - Celestron -nexstarsite.com
- Celestron has nylon bearings and metal gears with can cause some problems.
- Why does my GPS system take so long to start up – it takes a while to get its almanac. The almanac are the satellites orbital parameters.

Presentation by Tony Mullen: Constellation of Bootes

- Northern sky – Bootes name means herdsman or ox-driver. The oo is a dieresis (separate pronunciation of each vowel)
- Stars: T Bootes is a sun like star is orbited by a hot Jupiter (4th to be found.)
- NGC 5466 – globular cluster 51,800 ly away discovered by Herschel.
- Bootes void: a huge nearly spherical hole in space (250 million ly in diameter which contains few galaxies.
- Dwarf galaxy: local faint galaxy about 197,000 ly away
- Mythology – it's unclear who Bootes represents. Perhaps the driver of the plough and oxen that drag the polar axis around the sky. Or a grape grower that gave Bacchus or Dionysys. Wine. When hungover they thought they were poisoned and killed the wine maker (Bootes). Story of Zeus and so on. Traditionally represents a hunter with two hunting dogs. H A Rey suggests it's a herdsman sitting and smoking a pipe.
- Originally designated by Hevelius as Mons Maenalus Beyer renamed it.
- It's brightest star, Arcturus, is the third brightest star and is a red giant vastly larger than the sun.
- Several of the brightest stars are pretty doubles.
- M3 is nearby in Canes Venatici

Discussion on what the club wants to provide it's members:

- Karen suggested we should have more opportunities to meet for stargazing. Provide something like a tent up with a movie laptop to take care of children. There may be others we don't know that would come out if there is day care. Other child entertainment - storytelling about constellations projected in a tent using a flashlight and cards with holes (Ed - like Urania's Mirror at <http://www.ianridpath.com/atlasses/urania.htm>)
- more club observing sessions (like blackbird)
- monthly observing list (tried it a while back and people just didn't use it). Just grab them from the Internet.
- Organize groups trips to other star parties
- Use social networking systems like Facebook and Twitter.
- Online payment systems (we're working on that)
- Gear – t-shirts and stuff – little interest. It required start up money and a place to store it. Might consider CafePress.com which can handle individual orders using our logo.
- Jerry Truitt was handed the full list.

Meeting ended.