Issue #10
November '06

Sky Watch

The Newsletter of the Brevard Astronomical Society

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Club News:

Election of Nominating Committee established in October:
- Wyck Hoffler
- Ken Diller
- Chuck Greenwood

Upcoming BAS Meetings & Agenda:

November15th – **Nominations for BAS Officers to be submitted for 2007 Calendar Year**.
- **President**
- **Vice President**
- **Secretary**
- **Treasurer**

If you would like to be nominated for a position, contact one of the committee members no later than 2 weeks prior to the December meeting

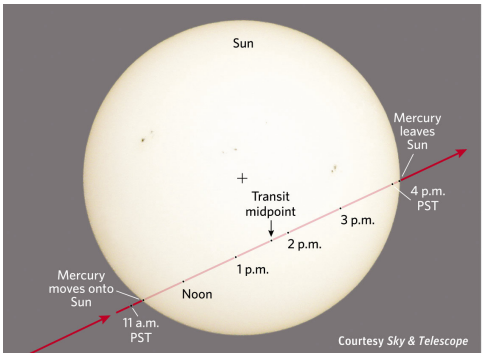
Moon Phases:

Full: Nov 5th

New: Nov 20th

What's in the Sky in Nov?

Solar Transit of Mercury – Nov 8th
Mercury will cross directly across the lower portion of the Sun, forming a tiny black dot against the bright background. The planet reaches "inferior conjunction" at approx 5pm. Mercury will not transit the sun again until 2016.
It should be spectacular (if the weather holds up). The BCC planetarium will be open and BAS members will be there.



http://skytonight.com/observing/atagla nce

Nov 17th,18th and 19th - The Leonid Meteor Shower –
http://www.jb.man.ac.uk/public/nightsky.html
Every year, on November 17th and 18th, the Earth passed close to the trails of comet debris from Comet Temple-Tuttle which produce the annual Leonid Meteor shower. This year there will be a waning crescent Moon so it will mean that the sky will be dark so allowing faint trails to be seen. It is expected that, in general, only 12 to 15 meteors are likely to be seen per hour. However there is a chance that for around 30 minutes at ~4:45 UT on the morning of the 19th November there will be a short outburst with perhaps one or two meteors visible per minute! Thus it could well be worth getting up that morning in the hope of seeing them. The dust particles that are swept up by the Earth are released as Comet Temple-Tuttle rounds the Sun every 33 years. The peak in activity on the morning of the 19th is when the Earth will cross a stream of particles ejected as the comet passed the Sun in 1932. The Earth last crossed this stream in 1969 when a rate of 200 meteors per hour was observed for 30 minutes.

Other PLANETS:
Saturn rises in the northeast after midnight in Leo, and transits at approx 6 am by mid month. You will be able to view Saturn by 10pm in the evening by months end.
Uranus & Neptune begin setting in the early evening by mid month, so you may need to wait until spring when they begin rising early in the morning along with **Venus**. **Mars** begins to rise just before dawn as November progresses as well.

Outreach News:

November there are 2 events on the 11th; the Harmony Dark Sky Festival, and the Moonlight Stroll at Erna Nixon Park.

See the BAS website or contact Oscar Sifuentes to volunteer.

Next BAS Star Party:

There is no "local" scheduled star party for Nov.; however some members intend to travel to Chiefland Fl. the weekend of 22 November for the annual star party.

Summary of Oct 18th meeting:

(1) Informative presentation by Wyck Hoffler on filters. See the BAS website for the slides.

(2) Wyck Hoffler showed the members his photographs from Australia. He had a couple of magnificent vies of the miky way. No, they were not upside down….

(3) Dave Guibert showed some pics he took at the Chiefland star party in Sept.

(4) B. Manley handed out draft copies of the BAS Loaner scope process for review & comment.

(5) The telescope mirror making class is progressing. A few of us began the grinding process at the Oct meeting. We plan to continue at the Nov meeting, so bring your glass and materials.

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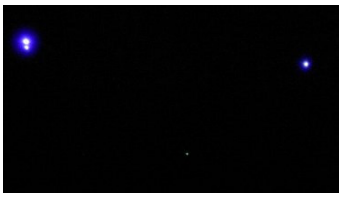
Club Telescope News:

The BAS currently has two telescopes for use by club members. Contact Gary Scott for additional information.

Jason Lehmann returned the 16" Dob to the planetarium.

The 8" Orion is at the Planetarium. There appears to be a problem with the encoder card on the go-to.

Mizar and Alcor



Albireo

Featured Science Article:

John Norczyk *(Thanks John!)*

The Value of Double Star Observing

Observing the Moon, planets, and deep sky objects usually takes up a majority of our observing time. Double stars offer a pleasant break in the routine. There are interesting double stars in the sky at any time of the year or night, weather permitting. Some double stars may be at the limit of the unaided eye, others visible in binoculars, and more challenging targets with your telescope.

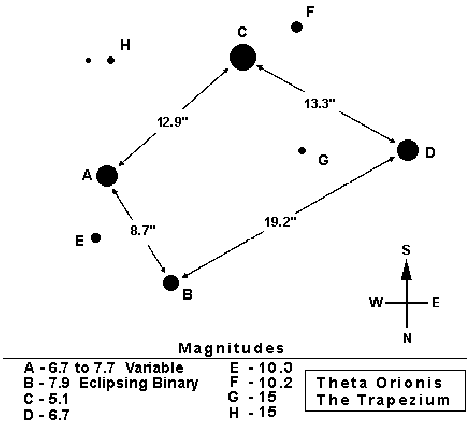
Mizar and Alcor -*The Horse and Rider* **(Picture to Left)** Mizar the middle star of the handle of the Big Dipper is a 2nd magnitude star accompanied by a 4th magnitude companion Alcor 12 arcmin away. Alcor was often used as a reference to judge a person's unaided eyesight. Mizar itself has a 4th magnitude companion, Mizar B, 14 arcsec away.

Albireo (al-beer–e–o) **(Picture to Left)** Some double stars present impressive contrast in color. Albireo is a double star seen in the sky as the foot of the Northern Cross; also it is the eye of Cygnus the swan. It is also known as Beta Cygni, as the second brightest star in Cygnus. Visually, it is a breathtaking sight, and can be seen in all its glory with binoculars, which clearly split the pair, showing Beta 1 as a magnitude 3.1 yellow star, and Beta 2 as a magnitude 5.1 blue star. The two are separated by about 35 arcseconds, and the stars are some 400 light-years away from us. Albireo is a delightful summer and early fall sight in the northern hemisphere. *http://www.deregt.com/Astronomy/Albireo.htm*

Theta Orionis – The Trapezium
A multiple star q Orionis is associated with the Great Orion Nebula, M42. Galileo was the first observer to draw the stars in the Trapezium in 1617.

(Top of next column)

(The Trapezium)



http://www.astropix.com/HTML/B_WINTER/TRAPEZ.HTM

Stretch Your Limits
Double star observing will help stretch your observing skills and help measure the quality of your telescope. The ability of a telescope to "split" double stars is referred to as resolution. Light can be explained as energy traveling in waves. Light waves can be bent by phenomena known as diffraction. Diffraction occurs when waves pass through an aperture (or opening) or pass around an obstruction such as a secondary mirror. The short explanation is that a star image is comprise of a bright spot, called the Airy disk, surrounded by a series of faint rings.

Dawes Limit, derived by the English amateur astronomer William Dawes (1799-1868), determines the smallest separation, in arc seconds, of two stars in which each is still observable with a telescope of given diameter. This limit was derived through actual observation of double stars over a period of time.

$\theta = 4.56"/ \text{Diam.}_{(inches)}$ *or*
$\theta = 116"/\text{Diam.}_{(mm)}$

According to this formula an 8" telescope has a Dawes Limit of 0.57".

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