



Sky Watch

Issue #6
July 06

The Newsletter of the Brevard Astronomical Society

BAS Contact Info:

P.O box 1084
Cocoa Village
Cocoa Fl. 32922
www.brevardastro.org

Officers:

President:
Gary Scott
Gary.Scott@IEEE.Org
Vice President:
Jan Ferguson
Astronomerjan@aol.com

Treasurer:
Mark Jones
mjones32@cfl.rr.com

Secretary:
Megan Boyd
sds9397@aol.com

Newsletter:
Bill Manley
bmanley@cfl.rr.com

Outreach Coordinator:
Oscar Sifuentes
osifuentes@cfl.rr.com

Club News:

I believe we are registered once again with the **Astronomical League**. If you are a dues paying member of BAS for 2006, you should be registered.

Next BAS Star Party:

The 27 June Harmony event was rained out. Nothing is scheduled for July as of this writing.

Moon Phases:

Full: July 10th



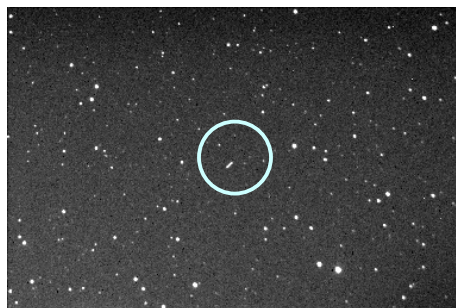
New: July 24th



What's in the Sky in July?

There will be many good overhead passes of the HST in the first half of July. Most are in the 5:30am range. Space Shuttle Discovery is currently docked at the ISS. Check: www.heavens-above.com for specific pass times and coordinates.

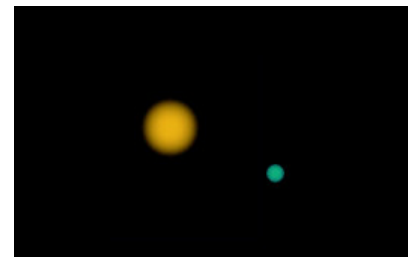
The big astronomical event for July (not to overshadow the successful launch of Discovery) was the pass of **Asteroid 2004 XP14**, nary a "moons distance" away. Don't know who in the club was able to partake in the observation. I tried in vain but the cloudy skies won the battle from my vantage point. Wyck Hoffer had the perseverance to see it through some humidity and moon light. An excerpt from Wyck's e-mail to the BAS mailing list and 1 of 6 photos he sent out are below. Great job with the camera once again Wyck!



Excerpt: I went last night [3 July] about 21:00 EDT (under a more transparent sky with slightly less humidity, though first quarter Moon) with ephemeris in hand. Determining not even to try to see the asteroid visually, I first aligned my imaging scope (Hi-SIS-22 camera atop the Celestron Comet Catcher, 5.5-in diam x f/3.4, Schmidt-Newtonian) precisely with the main (12.5-in diam x f/6 Newtonian) instrument then targeted the system on the coordinates the asteroid would pass at 22:00 EDT (18hr 3 min RA and +62 degrees 05" DEC in Draco). With sequential 1-minute images, separated by 3-minute intervals, I bracketed the rendezvous time. The KAF-0400 CCD (768 x 512 pixels 7 micra square) was binned 2x2. Only processing was subtraction of equivalent dark frames. This worked absolutely successfully. Field of view for [this] images is 32 x 48 arcminutes; north is to the left. The asteroid was moving about 1 arcminute per minute; movement would have been clearly evident visually.

It is getting close to "Sagittarius hour", in which we are looking toward the center of the Milky Way (from the northern hemisphere, at night). The constellation Scorpio transits around 10:15 by mid July. The globular M4 is approx 1 deg from the super-giant star Antares. Sagittarius follows about 2 hours behind Scorpio. There are many gems in Sagittarius including the Lagoon and Trifid nebula's (M8 & M20), as well as many open and globular star clusters. M22 is especially bright and easy to find just 2-1/2 deg east of Kaus Borealis (top star in the tea pot asterism).

The "summer triangle" formed by stars Vega, Deneb & Altair rises high overhead, and transits in the 1am range. Albireo at basically the center of the summer triangle is a beautiful binary star system.



Also within the triangle, you can observe Ring Nebula (M57), the North American and Veil Nebula's, the Dumbbell Nebula (M27), and the globular M71. Of course, dark skies (and a Hydrogen-Alpha H3 filter) will be needed for any attempt to see the faint nebula's.

PLANETS: **Jupiter** still dominates the sky virtually all evening, transiting around 8:30 pm, and setting about 1:50am by mid month. **Neptune** rises in Capricornus to the south about 10pm and transits about 3am during July. **Uranus** (in Aquarius) follows Neptune by about 1-1/2 hrs; however, the moon will be passing the two planets in a "quasi-looking retrograde like path" over the month, so you will have to wait until the last week when there is a new moon. This will also work for the dawn watchers since they don't set until approx 8am. There are other gems in that area of the sky as well including the Helix Nebula, NGC 7293, if you are lucky to get a dark sky low and due south.



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Outreach News:

No outreach events are currently planned for July.

BCC Observatory

The BCC Observatory continues to be in need of volunteers from BAS. The coordinator is **Chuck Greenwood**.

Upcoming BAS Meetings & Agenda:

July 19th - The normal meeting schedule will resume in July; 7pm at BCC.

Summary of Past Meetings and Events:

July 21st meeting –

The lecture by *Dr. Mark Adler of the JPL* hosted by the **Melbourne Astronomy Society (MAS)** was very good and was presented to an almost full auditorium. Dr. Adler showed animations of the rover landing on Mars and described in detail the mission timeline, the travels of each rover, and the results of the research. Evidence of flowing water on the Martian surface was presented (geological, chemical, etc.). Plans for future unmanned and manned Mars missions were discussed.

- (1) Potential star party at Chiefland and/or attending the Fall star party. Some time in late summer.
- (2) MAS/BAS should find more ways to cooperate in the local area. We are sharing the Harmony site and coordinating the star parties to get more people involved in star parties.
- (3) The question was raised of having a second Astronomy Day event at BCC sometime later in 2006. No decisions were made.

Featured Science Article:

Noteworthy e-mail submittal from Bud Thompson:

A little Earth-sky science for everyone to enjoy...



*"This is a fire rainbow, the rarest of all naturally occurring atmospheric phenomena. The picture was captured this week on the Idaho/Washington border. The event lasted about 1 hour. Clouds have to be cirrus, at least 20,000 feet in the air, with just the right amount of ice crystals, and the sun has to hit the clouds at precisely 58 degrees."
Clear Skies,
Bud*

Editors note: I believe the original source of this photo may have been National Geographic News, but thanks for the info Bud!

"Circumhorizon arc"

<http://www.sundog.clara.co.uk>

The arc is usually produced by plate oriented crystals and is a close relation to the circumzenithal arc. Light rays enter the almost vertical crystal side faces and leave via the lower horizontal face (ray path 3-1). The refraction of the almost parallel sun's rays through faces inclined at 90° produces pure, bright and well separated prismatic colours ~ purer than those of the rainbow. The colours are at their best when the crystal tilts are smallest. Large crystal tilts produce more pastel hues.

An infralateral arc can have a similar shape and appearance when the sun is high. The CHA is everywhere the same distance above the horizon whereas the infralateral arc is lowest beneath the sun then curves upwards.

Telescope News:

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

(Presumed still) For Sale:

Meade 8" Starfinder Dobsonian Telescope Meade Magellan I telescope comp system (2 included) Telrad, Various eyepieces & Barlow lens. Collimating eyepiece, Moon filter Value worth \$1500 Sell for \$500

Contact:

Jesse 259 – 3348 or:
teacher@lutvach.com

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