
Friends Of The Observatory Newsletter

July 2001

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Published by the Friends of The Cincinnati Observatory Center

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Volume 11 No. 7

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In This Issue...

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Brighter Redder Mars

Extrasolar Asteroid Belt

Hungry Quasar

Humans on Mars

A Letter From President Huber

Dear "Friends",

Well summer is officially here!!! The long hot days aren't that conducive to astronomy, but press on we must because Mars will soon lose it glorious brilliance as earth streaks away from the Red Planet.

This month I hope everyone will enjoy the family picnic this year. I'll keep my fingers crossed for good weather. There will be stomp rockets for the kids we'll be viewing the Sun and Mars for the astronomers in the family, and for everyone else there will be good food and good company.

Don't forget to check the sign up list and as always it's BYOM, that is, bring your own meat. Soft drinks will be provided.

This month's program is the **Summer Family Picnic which starts at 6:30 PM at the Observatory on Tuesday, July 3rd**. Bring along the family and enjoy another delightful time at the "O". And if we are lucky we'll get to see Mars once it gets dark.

Our speaker last month was long time FOTO member **Dave Bosse** who presented the "Story of Harrison and his Clocks" and the way to calculate longitude on the high seas. It was an intriguing story.



July FOTOKids Meeting

The next meeting of FOTOKids will take place on **Friday, July 6th, at 8:00 PM**. We'll have an astronomy craft and discussion. After the presentation, we will open up the telescopes or viewing, weather permitting. The meeting takes place at the Cincinnati Observatory Center.

FOTOKids and their families are invited to the **FOTO Annual Picnic on July 5th starting at 6:30 PM**. Come on out, launch a stomp rocket, view the sun in Hydrogen Alpha, roast a dog. See this newsletter for more details.

Don't forget the **FOTOKids overnight extravaganza on August 10th**. Contact Chuck for details. August's FOTOKids' regular meeting will be an informal viewing session. There will be no formal program planned, but FOTOKids are invited to come out and use the telescopes.

If you have a kid interested in astronomy between the ages of 8 and 14, find out more about FOTOKids by contacting **Chuck Strubbe** at (513) 886-7600 or jstrubbe@one.net.

Planning Meeting

The next planning meeting will be held **Wednesday, July 18th at 6 PM** at Max & Erma's in the Rookwood Pavillion in Norwood. (Smith Road exit off I-71)

Stonelick Lake Star Parties

The next Saturday Star Party/Cloud Dates will be **Saturday July 14th** with a rain date of June 21st, setting up around dusk in the beach overflow parking lot.

They're held at Stonelick Lake State Park which is open to the public all night year round. For updates, directions or information, phone **Scott Naylor** at 513-575-5556.

Did You Know....

In early times the Greeks and Romans developed a "water Clock". This consisted of a water filled container with marking on the side representing increments of time. Water would leak from a small hole in the bottom causing the level to fall.

Up Coming Events East Side Of Town

August 10th (Friday): 2nd annual FOTOKids campout at Chilo! Last year we saw a lot of meteors and the aurora!

August 11th (Saturday): The annual meteor shower/stargaze at East Fork State Park Dam Area.

Please let me know. Contact **Sheila Riley** before August 3rd if you plan to attend at naturenut@netzero.com or at (513)724-3801.

Wind Bubble Found Around Young Super Star Cluster



An international team of astronomers has detected a wind bubble associated with a super star cluster in a nearby galaxy -- a key indicator that helps explain how this extremely young cluster is evolving. <http://spaceflightnow.com/news/n0106/11bubble/>

Did You Know....

Neptune's moon Triton is believed to be the coldest place in the solar system. The temperature is a crisp -391 degrees F.

Update on the COC Renovation Projects

By Bob Casey

- The building permits for the restrooms should be issued this week (really).
 - The ADA ramps are being advertised for bids starting this weekend.
 - The dome work is getting approved by the Ohio Historical Preservation Office (probably this week) same for the window replacements in both buildings.
 - Presentations
 - A new computer has been purchased and installed for the auditorium in the Mitchel building (much faster and much more memory).
-

Did You Know....

Over 500 asteroids have been found in orbits that cross the Earth's, but over 300 of these have been "lost" since they were first seen.

More Hot Astronomical Websites

By Chuck Strubbe

It is getting to the point where I no longer have to go searching for these sites myself. People keep submitting great astro sites to me. A big thanks goes to **Scott Naylor** and **John Bevan**. If you have a suggestion for an Astronomy Hotsite, email me at jstrubbe@one.net.

<http://space.jpl.nasa.gov> - **Solar System Simulator**. When I first decided to sit down and figure out how all the planets move in relationship to each other (thus understanding how the planets move through our skies), the best I could come up with was chopping up a bar of Ivory soap, color coding the pieces and floating them in my nightly tub. It was hard keeping the planets in position.

For an easier alternative, this site generates views of the solar system from any point. It is a little difficult figure out the interface, but well worth it.

<http://www.pdsimage.wr.usgs.gov/PDS/public/mapmaker/mapmkr.htm> - **PDS Mars Mapmaker**. The Mars Explorer allows you to get an image map of any area on Mars at a variety of zoom factors, image sizes, and map projections. This is particularly of interest if you plan on doing any viewing of Mars during the following months. Follow the links for similar maps of the Moon, Venus, and Callisto.

<http://www.marssociety.com> - **The Mars Society** has a very active group here in the greater Cincinnati Area. This society is dedicated to sending humans on Mars.

The group is generally science-based and idealistic as anyone who is a proponent of space should be. Read more about them here.

Did You Know....

From earth, there is no way to see any phase less than gibbous for any superior planet. Venus is the most reflective Albedo is .65. Mercury is the least reflective. Albedo is .06. The Moon has the Albedo of Asphalt. It's just .07.

Mars Viewing at Ault Park

Get ready for the Red Planet! COC & FOTO will be hosting another **public Mars viewing** at the Ault Park Pavilion on **Sunday July 8th**, starting about 10 PM.

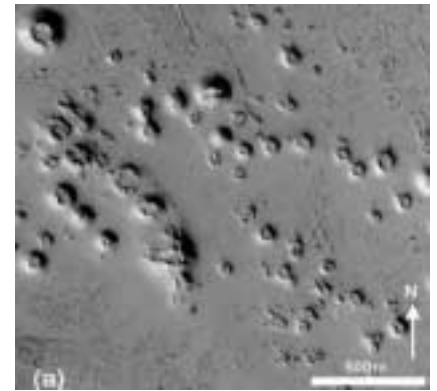
FOTO members with portable telescopes are asked to come on out. So brush up on your Red Planet facts and myths and share the great view of Mars that this opposition is going to offer the public.

Please contact **Bob Casey** at the "O" (321-5186) or **Craig Niemi** (craig_niemi@yahoo.com) for more information.

Did You Know....

Scientists estimate there are about 35 million neutrinos per second passing through every square inch exposed to the sun. Neutrinotan lotion anyone?

Evidence Found For Recent Shallow Ground Ice On Mars

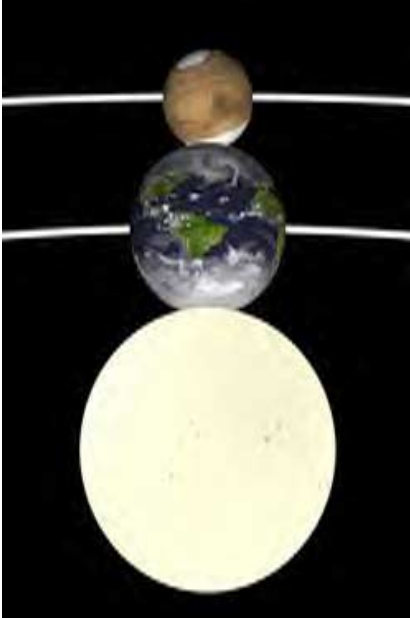


New high-resolution images from Mars Global Surveyor show evidence of ground ice on Mars as recently as 10 million years ago. More striking is that the signs of geologically recent ground ice deposits are near the equator, where ice was probably no deeper than 15 feet. <http://spaceflightnow.com/news/n0106/14marsice/>

Did You Know....

A solar flare can release as much energy as a billion hydrogen bombs.

Brighter, Redder Mars Illuminating Summer Nights



Hold on to your hats and keep a pair of binoculars handy:

After a 26-month sprint around the track of the solar system, we are lapping Mars again. The red planet is in "opposition," an event that puts Earth between Mars and the Sun at its closest distance from Earth since 1988.

<http://spaceflightnow.com/news/n0106/14marsopp/>

Did You Know....

Tycho Brahe (1546-1601) was the Danish astronomer whose accurate astronomical observations formed the basis for Johannes Kepler's laws of planetary motion.

Astronomy Word of the Month

"Regmaglypt".

Come to the picnic the month and find out what it means.

Last month's word of the month was:

"Asteroid Number"

Asteroids are assigned a serial number when they are discovered. It has no particular meaning except that asteroid N+1 was discovered after asteroid N.

Thanks to the Observatory Presenters and Assistants

By John Ventre

The COC's public educational program includes the Astronomy Thursday and Friday programs, with a few Saturdays included. The guests to these events are presented with a quality astronomical program, followed by telescopic viewing and a short tour of the two observatory buildings, if the weather is not cooperating with the planned viewing.

Over the last several years the staff of presenters and assistants has grown to 52 enthusiastic and dedicated volunteers. The volunteers are from the ranks of the Friends of the Observatory (FOTO), the Cincinnati Astronomical Society (CAS), and a few independent volunteers. They generously contribute approximately 370 hours a year to support the much appreciated educational programs. **Dean Regas**, the outreach teacher, coordinates the scheduling of all of these folks.

Let's give many rounds of applause to the following volunteers! Without them the COC's public educational program would not be a success.

Presenters: **Dr. John Bevan, Dave Bosse, Andy Bruggeman, Bill Gwynne, Greg Huber, Frank Huss, Dr. Jim Lanard, Grant Martin, Craig Niemi, Paul Nohr, Dean Regas, Lori Rutherford, Chuck Strubbe, & John Ventre.**

Assistants: **Bill Bachelder, Stan Benson, Dave Bezanson, Andy Bruggeman, Jeremy Carr, Mary Fitzpatrick, Scott Gainey, Dana Gilbert, Bill Graser, Jeff Green, Jim Groen, John and Renee Haney, Mike Helfen, Tracy Hoffman, Geralyn Hunt, Rick Hunter, Jon Jennings, Jerry Kershner, Tom Kloecker, Daniel Kuntz, Simon Lee, Jack Luchsinger, Chad Madden, Michael Mahaney, Tom McDonough, Jim Morrow, Denise Mustain, Craig & Valerie Niemi, Scott Naylor, Chris Parrett, JoAnne Pedersen, Ken Phillips, Steve Scholl, Kirk Schrotel, Tiffany Vincent, & David Wall.**

Next month we will recognize the History Presenters and Assistants.

Did You Know....

The constellation Crux is the smallest constellation in the sky.

July's Trivia Question

In 1666 Cassini observed these on Mars??

June's Trivia Question

"What commonly used English word literally means "bad stars"?"

Answer: The word "Dis-aster" literally means Bad Stars. An aptly used word when referring to Shooting Stars.

Did You Know....

The Nadir is the point directly beneath the observer. It is the opposite the zenith.

Astronomers Discover Extrasolar Asteroid Belt

Astronomers announced that they had found evidence for what could be a belt of asteroids forming around another star, a discovery that may help them better understand how solar systems like our own form.

<http://spaceflightnow.com/news/n0106/05exoasteroids>

NASA Gives Official Nod To Robotic Mission To Mercury



NASA has given the first Mercury orbiter mission the go-ahead to move into full-scale spacecraft development -- setting up the first trip to the Sun's closest neighbor in more than a generation. Launch of the MESSENGER probe is set for March of 2004.

<http://spaceflightnow.com/news/n0106/08messenger/>

FOTO-SETI Update

The SETI website is down so I don't have the latest tally! But 20 FOTO members continue to crank out the analysis for SETI in 24/7 time.

Sign up to become part of the greatest search in history! Join Team SETI: http://www.space.com/searchforlife/seti_science_page.html

Hubble Telescope Unveils A Galaxy In Living Color



In this view of the center of the magnificent barred spiral galaxy NGC 1512, the Hubble telescope reveals a stunning 2,400 light-year-wide circle of infant star clusters. Astronomers generally believe that the giant bar, which is too faint to be seen in this image, funnels the gas to the inner ring, where massive stars are formed within numerous star clusters. Located 30 million light-years away, NGC 1512 is a neighbor of our Milky Way galaxy.

In this incredible view of the center of the magnificent barred spiral galaxy NGC 1512, the Hubble Space Telescope's broad spectral vision reveals the galaxy at all wavelengths from ultraviolet to infrared. The colors map where newly born star clusters exist in both "dusty" and "clean" regions of the galaxy.

Go to the website to see it in living color. It's spectacular!

<http://spaceflightnow.com/news/n0105/31hstcolor/>

Hubble Captures Nearby Galaxy

The latest set of images taken by the Hubble Space Telescope show nearby galaxy NGC 1512 in stunning detail. The composite image was created using seven

images taken by three different cameras. NGC 1512 is a barred spiral galaxy in the southern constellation of Horologium. Located only 30 million light-years away, it can be seen through many amateur astronomers' telescopes.

<http://dsc.discovery.com/news/reu/20010528/hubble.html>

Thanks for Walker

Thanks to **Mike Helfen** for donating a convalescent walker to the COC. It will be used to assist the public as they view through the portable telescopes. It gives them something to support themselves as they lean forward to look through the eyepiece.

The Great American Novel

By *Craig Niemi*

Note taking at the eyepiece can help you really see the object your looking at. Keep a log of your observations. Some questions to ask yourself while observing.

Planets

Phase?
Oblateness?
Color?
Equatorial Features?
Polar Features?
Any Satellites?

Open Clusters

What is the Shape?
Is it easily distinguished from the background stars?
Any bright or colored stars?
Chains or patterns of stars?

Globular Clusters

Shape?
Resolved?
Stars evenly distributed?

Nebulas

Shape?
Color?
Sharp or diffuse edges?
Any brightness variations?

Galaxies

Shape?
Uniformly bright, grainy or patchy?
Fuzzy or sharp edges
Orientation?

Duo Untangle Mysteries Of Jupiter's Magnetic Field



An artist's concept of Cassini during the flyby of Jupiter

In a series of presentations this week at the American Geophysical Union spring meeting in Boston, space scientists have shown how data from the two spacecraft have revealed new features and explained old mysteries about Jupiter's magnetic field.

<http://spaceflightnow.com/news/n0106/03jup/>

NO ATM Meeting July 4th

The ATM meeting has been cancelled on July 4th due to all of the holiday celebrations. We will resume our grinding and/or polishing on our laps on July 11th.

Did You Know....

Most of the Meteors that enter the earth's atmosphere are burnt up 50 miles above the surface.

Gift Of Galaxies Will Fuel New Findings

Redshift data and spectra from the first 100,000 galaxies measured by the 2dF (Two-degree Field) Galaxy Redshift Survey will be released to the world astronomical community on June 30th.

<http://spaceflightnow.com/news/n0106/04galaxygift/>

Spectacular Photo Catches Hungry Quasar In The Act

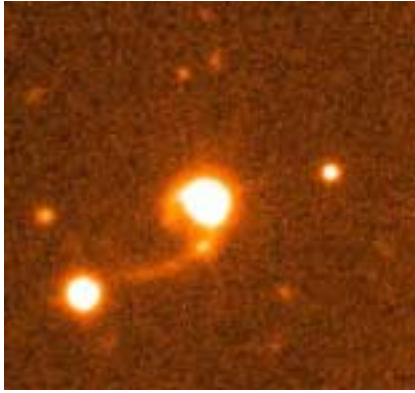


Image of the Quasar HE 1013-2136 and its surroundings. A spectacular arc-like tidal tail stretches from the quasar towards south-east (lower-left) over a distance of more than 150,000 light-years. Another, shorter tidal tail towards the east-northeast is barely visible.

A new image of a distant quasar -- the luminous core of an "active" galaxy -- shows that it is engaged in a gravitational battle with its neighboring galaxies. It also provides information on how super-massive black holes present in the center of quasars are fed.

<http://spaceflightnow.com/news/n0106/01hungry/>

Escape Route Found For Jupiter's Particles



On January 15, 17 days after it passed its closest approach to Jupiter, NASA's Cassini spacecraft looked back to see the giant planet as a thinning crescent. This image is a color mosaic from that day, shot from a distance of 18.3 million kilometers (11.4 million miles). The smallest visible features are roughly 110 kilometers (70 miles) across. The solar phase angle,

the angle from the spacecraft to the planet to the Sun, is 120 degrees. A crescent Io, innermost of Jupiter's four large moons, appears to the left of Jupiter

Jupiter's magnetosphere, an ionized-gas bubble encasing the planet, is lopsided and leaky, with an unexpected abundance of high-energy particles bleeding out of one side, according to recent measurements by NASA's Cassini spacecraft.

<http://spaceflightnow.com/news/n0106/01cassjup/>

Next FOTO Imaging
Meeting Dates
July 11th and July 25th

Did You Know....

No matter which direction a comet is traveling the tail always points away from the sun.

Goldin Tells Graduates Humans On Mars In 20 Years



NASA administrator Dan Goldin told graduates of one of the nation's leading universities Friday that humans would walk on Mars within the next 20 years. Goldin described the unofficial but widely-accepted long-term goal of the agency's human spaceflight program.

<http://spaceflightnow.com/news/n0106/10goldinmit/>

A Point to Ponder....

What should we do if and when we discover life out there somewhere in the universe?

A "Did You Know" Rebuttal

By Fred Bowman

(Editor's Note: Fred is responding to a "Did You Know" in the May Newsletter stated "Uranus has 21 known moons, second most of any planet in the solar system." I sincerely invite (short) opposing points of view to any articles published in this Newsletter.)

There were a number of discoveries in 2000. New objects orbiting Jupiter and Saturn. Jupiter has 16 numbered and 12 unnumbered satellite -- 28 total. Saturn has 15 numbered and 12 unnumbered satellites -- 27 total. There are unconfirmed reports of several more objects. Uranus has 20 numbered satellites. Neptune has 8 numbered satellites. As these planets come to opposition surely these numbers will increase.

There are reports of a third and 4th satellite for Mars. Nothing official yet, although someone used the NASA logo in their report.

NOTE: This could be a work of fiction. No orbital elements but a diameter of 100-500 meters was included in one brief report.

X-Ray Nova, Pulsating White Dwarf Found In Andromeda

In its first look at the Andromeda Galaxy, Europe's XMM satellite has revealed several unusual X-ray sources, including a bright spot created by an enormous X-ray nova outburst and one of the "coolest" sources of the central region that appears to be a luminous white dwarf.

<http://spaceflightnow.com/news/n0106/11whitedwarf/>

Europe's Mars Express Will Investigate Phobos

Phobos, the tiny innermost moon of Mars, is to come under unprecedented scrutiny after Europe's mission to Mars goes into orbit around the Red Planet late in 2003.

<http://spaceflightnow.com/news/n0106/10phobos/>

First Public Release Of Digital Sky Data



From as close as a few light minutes away to as far back as when the universe was less than a billion years old, the Sloan Digital Sky Survey is finding new and interesting objects across the sky. Two new record setting quasars and information on the distribution of asteroids were announced here today by the members of the SDSS collaboration. The announcements took place at the American Astronomical Society meeting being held here this week.

<http://www.universetoday.com/html/articles/2001-0607a.html>

Friends of the Observatory
Cincinnati Observatory Center
3489 Observatory Place
Cincinnati, OH 45208

Address Correction Requested

Did You Know....

The first proposal for signaling to Mars was made by the German mathematician Karl Gauss in 1802. He suggested that geometrical diagrams large enough to be observable by Martian astronomers be drawn in the wastes of Siberia.

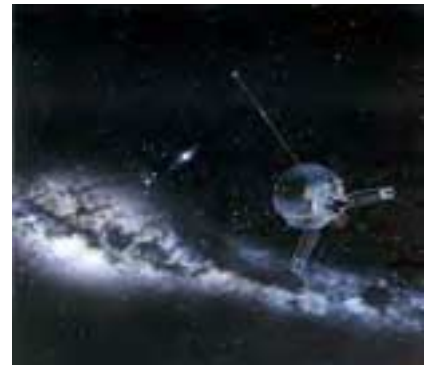
Then in 1874 a Frenchman, Charles Cros, proposed the reserve idea: the Sun's rays were to be focused onto the Martian deserts by a huge lens, and used to write messages.

If your membership is about to expire, kindly rush your renewal check to the return address on this newsletter. \$35 single and \$50 family, payable to the "C.O.C."

Did You Know....

A quarter, if dropped from head-high on the asteroid Eros, would take five seconds to fall to the surface.

Pioneer 10 Status



New data from the Geiger Tube Telescope instrument aboard NASA's Pioneer 10 space probe has been analyzed. The report is cosmic ray intensity has continued to decrease. The craft is currently 7.34 billion miles from Earth.

<http://spaceflightnow.com/news/n0106/07pioneer10/>

Did You Know....

An X-ray binary system contains either a neutron star or a black holes. These bizarre objects are only the size of a large city yet are more massive than our Sun and in X-rays alone emit ten thousand times more power than the total output of the Sun.