
Friends Of The Observatory

Newsletter

June 1999
Phone 321-5186

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Website: <http://w3.one.net/~foto> Bill Cartwright, editor

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A Letter From President Huber

Dear "Friends",

Summer is here....I've been watching the summer triangle get higher and higher each night. I hope that you are all enjoying your start to the sunny season.

Over the past month we FOTO has had some wonderful events take place. First, if you haven't been downstairs in the Mitchell building for a while, be sure to catch a glimpse of the floor when you are down there. The Boy Scouts were kind enough to come out and do some dirty work for us cleaning the place up.

Second, I hope that everyone got to see the Cincinnati Observatory architects presentations a couple of weeks ago at the First Annual Cincinnati Observatory event. Boy, are there big things in-store for the "O".

And lastly, we had a successful Mount Lookout civic club star party at their annual shindig. Thank you to all who have volunteered this past month.

This month Sundials will be the program (I promise). So be sure to remember your scissors and ruler!

Don't forget coming up next month is the annual FOTO Picnic at the "O". We will be passing around a sign up sheet at the next meeting for people to bring a few items. The picnic is always a great time with solar observing and great food. (Mindee's lemon squares are divine).

Did You Know....

The moon is slowly spiraling away from us at the rate of 1-1/2 inches per year. One billion years ago, when the moon was closer, a lunar month lasted only 6-1/2 hours!



The June Meeting

Our June club meeting will be held on Thursday June 3rd at 7:30 PM in the mini-theater, on the 2nd floor of the Hyde Park Community United Methodist Church, Observatory and Grace Avenues, between Delta and Paxton.

Last month, **Jason Braden** of Eastern Michigan University presented our program about the Lunar Prospector and the Moon Link Project.

Weather permitting, following the program we'll reconvene at the Observatory for an observing session.

Members and guests are invited to get together before the meeting for supper at Jeckles Restaurant at 6 PM. Jeckles is next to the Hyde Park Shopping Center.

ATM

The Amateur Telescope Makers (ATM) are beginning to reach new heights!! The group is entering the polishing phase of mirror work. And also beginning to get to the place where telescope construction ideas are beginning to become plentiful. So if you are interested in building your own scope

Feel free to come out and join the ATM's some Wednesday evening. The group meets at 7:30 PM at the "O".

The Planning Meeting

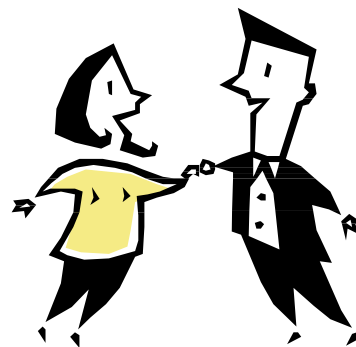
FOTO's June Planning Meeting will be held on Wednesday June 19th at 6 PM at the Cooker Restaurant in the Hyde Park Plaza near Krogers.

Astronomy Word for June....

...is "Libration". Come to the meeting and find out what it means.

May's word was "RU Lupi": It's a variable star in the constellation Lupas.

Welcome New Members!



Dennis & Karen Zimmerman;
Bradley & Eugina Roberts DDS;
James & Janice Figgins

Did You Know....

NASA's proposed Kepler mission will monitor 90,000 stars, looking for tiny fluctuations in brightness that could be caused by planets passing in front of them. NASA scientists hope to discover several hundred Earth-like planets in this way!

Looking Up Into June's Sky



- 3 The moon passes 1° north of Neptune.
- 4 The moon passes 0.5° north of Uranus.
- 5 Mars is stationary.
- 7 Last quarter moon is at 12:20 a.m. EDT
- 9 The moon passes 4° south of Jupiter.
- 10 The moon passes 3° south of Saturn.
- 11 Venus is at greatest eastern elongation (45°). Racing with the moon.
- 12 The moon is at perigee (222,570 miles from Earth).
- 13 New moon.
- 15 The moon passes 4° south of Mercury.
- 16 The moon passes 2° south of Venus.
- 18 The moon passes 1° north of Regulus.
- 20 First quarter moon.
- 21 Mercury passes 5° south of Pollux; Summer solstice.
- 22 The moon passes 6° north of Mars.
- 25 The moon is at apogee (252,189 miles from Earth).
- 28 Full moon; Mercury is at greatest eastern elongation (26°).
- 30 The moon passes 0.6° north of Neptune. Moon over Miami.

Did You Know....

There have been six failed launches in less than nine months, four of them this year! Titan IV exploded on Aug. 12th; Delta III exploded on August 26th. Titan IV left satellite in useless orbit on April 9th; Athena II drags satellite back on April 27th; Titan IV puts satellite in wrong orbit on April 30th; and a Delta III goes into the wrong orbit on May 4th.

The Telescope Fair will be on August 15th

Please look at your address label below. If your membership has expired, kindly rush your renewal check to the return address on this newsletter. \$25 single, \$40 family, \$100 Exalted Ruler.

New Solar Calendar

NASA has debuted a 10-year look at Solar System Exploration launches and events on a clickable calendar located on the Solar System Exploration website at.....

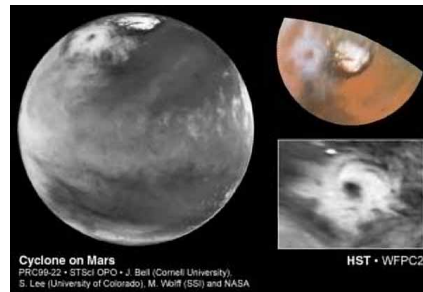
<http://sse.jpl.nasa.gov/results/calendar.html>
Each item is hyperlinked to the overview page on the site; from there folks can go to the mission webpages. The calendar is intended to be printable as a vugraph, as well. Be sure to set your page setup to landscape. Article contributed by:

Dr. Larry Cooper
Director, Space Sciences, Associate Director, Ohio Space Grant Consortium, Ohio Aerospace Institute
(513) 245-9897, <http://www.oai.org/oss>,
<http://www.osgc.org>

Did You Know....

There is enough rocky material in the Asteroid Belt to make another planet about half the size of our Moon.

A Cyclone on Mars!



Astronomers monitoring Mars with the Hubble Space Telescope detected a giant storm in the northern hemisphere. The hurricane-like spiral -- complete with a central "eye" -- was seen on two pictures taken by a team of astronomers led by Jim Bell (Cornell University).

The storm is more than 1,000 miles across with an eye about 180 miles wide. It is not a swirl of dust but a water-ice cloud that is three times larger than any previously observed spiral storm system on the planet. The storm was located near 65° north latitude and 85° west longitude, but Hubble did not view the that region of the planet further.

Did You Know....

The Hubble mission is officially scheduled to come to an end in 2005!

SUMMER PICNIC!!!



This years Summer Family and Friends Picnic will be on July 1st. There will be a sign up sheet for goodies to bring at the June meeting. If you will be unable to attend the June meeting, but would like to bring something anyway, please call me, **Greg Huber**, at 894-7735.

The picnic has been traditionally BYOM. ("M" means meat) a time when people get together and share. And we'll have a grill there to warm up what you bring. The picnic is at the "O" and will start at 6 PM!!! There will also be solar observing in both H alpha and white light. So come on out bring the family and have a great time!!!

SETI@Home.....

by Chuck Strubbe

Did you know you could be looking for extraterrestrial intelligence while you're taking out the garbage, watching TV or even mowing the grass? It's true!

Now just by letting your computer run while you go about your daily life, you can be participating in ground breaking research that is trying to discover extraterrestrial intelligence. All you need is a computer with an Internet connection.

Whenever the computer is idle, the SETI@home software takes over and begins analyzing data in search of strong spikes or repetitive patterns in radio signals from space.

Interested in participating? Log on to <http://setiathome.ssl.berkeley.edu> and download the software. Then go to the Team Section and join the FOTO team. At this writing, the five who have signed up have contributed over 400 hours of computing time to the project. It's a comfort to know your 350 MHz processor is doing more than twiddling its thumbs waiting for you to type in your next letter to Aunt Agatha.

Callisto Revisited



On May 5th NASA's Galileo orbiter passed 790 miles from the giant moon Callisto -- a flyby that marks a new phase in the spacecraft's 3½-year tour of duty around Jupiter.

Later this year Galileo will begin a series of breathtaking swings past Io, visits that were put off until now because of the system-threatening concentrations of charged particles that pervade Jupiter's inner magnetosphere. .

Apollo Rendezvous and Telescope Fair will be held June 11th and 12th in Dayton. For details, see website at www.mvac.org.

FOTOKids

FOTOKids is off to a roaring start. The first two meetings had a total of some 20 kids attending. Since parents attendance is mandatory, that means that we had close to 40 people for each meeting.

The May meeting found the kids learning about planet positions and rotation star charts. We then used the Mitchell scope and **Jim Groen's** ETX to look at Mars and whatever else was up in the sky. These kids can't get enough.

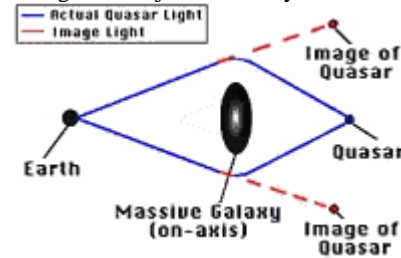
If you know of a kid who is really interested in astronomy and is between the age of 9-14, have their parents or guardian call me, **Chuck Strubbe**, at 886-7600.

Gravitational Lensing

Carnegie Mellon astrophysicists report that a NASA Hubble Space Telescope survey of the sky has serendipitously uncovered exotic patterns, rings, arcs and crosses that are all optical mirages produced by a gravitational lens, nature's equivalent of having giant magnifying glass in space.

A gravitational lens is created when the gravity of a massive foreground object, such as a galaxy or black hole, bends the

light coming from a far more distant galaxy directly behind it. This focuses the light to give multiple or distorted images of the background object as seen by the observer.



Albert Einstein predicted that the gravitational field of a massive galaxy would bend light traveling to Earth from distant quasars. This is what is called "gravitational lensing," since the intervening galaxy acts as a lens to focus the image of the distant quasar to a new location. Gravitational lensing can produce multiple images, rings, or arcs, depending on the distribution of mass in the galaxy and the Earth-galaxy-quasar geometry.

The Hubble images in which these lenses were discovered are part of the Medium Deep Survey database. The survey catalog contains over 200,000 objects, mostly faint galaxies.

The public can search the catalog and study the myriad of never-before-seen galaxies from this huge Hubble database on a home computer.

To search the catalog go to:
<http://archive.stsci.edu/mds/>

Kansas Balloonists Hope to Catch Pieces of Halley's Comet

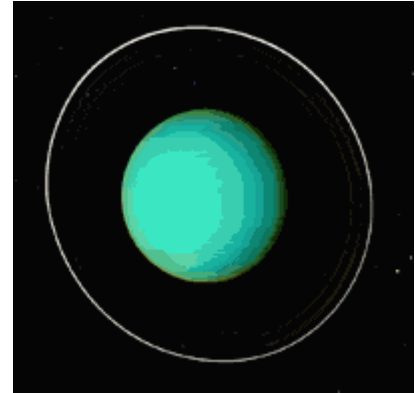


If the experiment succeeds then the balloonists will have captured bits of Halley's Comet, the parent of the eta Aquarid meteor stream.

A group of educators and ham radio operators known as the Kansas Near Space Project plan to launch a weather balloon destined to catch a piece of a famous comet.

Scientists hope will capture micron-sized Aquarid meteoroids 120,000 feet above Earth's surface.

Astronomer Discovers 18th Moon of Uranus



This image shows Uranus with its ring system and 10 innermost satellites. All but the newly discovered moon, S/1986 U 10, were known at the time the image was taken by Voyager 2 in January 1986.

The new satellite hovers 32,000 miles above the clouds of Uranus and is about 25 miles in diameter, similar in size to comet Hale-Bopp.

Spiral-Galaxy Collisions More Common Than Once Thought



Galaxy IC 2163 interacts with the larger galaxy, NGC 2207.

Astronomers compiling a catalog of spiral galaxies have discovered that collisions between such galaxies, as well as near-collisions, are more common than had been thought.

When viewed through traditional optical telescopes, about 30 percent of 200 galaxies appear to contain a bar-shaped band of stars at the center. Astronomers call these galaxies "barred spirals." Astronomers discovered that the fraction of strongly barred galaxies was roughly twice "Collisions" continued on page 4

"Collisions" continued from page 3

as high when they viewed the same 200 galaxies through infrared telescopes.

Astronomers think the bars form either when two galaxies collide or when they nearly miss each other as they drift through space.

The finding indicates that galaxies in our area of the universe have interacted with each other a good deal in the last 10 billion years.

Did You Know....

Scientists say building a time machine may be impossibly difficult, but does not violate the laws of physics.

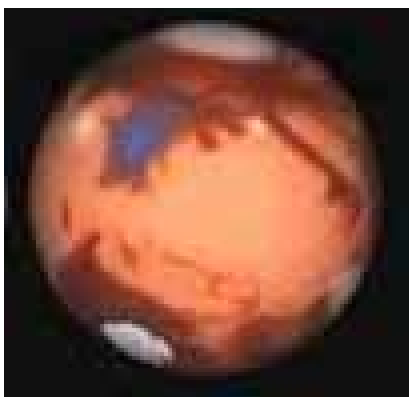
Spaceplane Advances to Next Phase of Testing



NASA will unveil a new reusable, robotic rocket plane in the high desert of California this week..

The X-34, a single-engine rocket plane, will fly itself using onboard computers. The vehicle is approximately 58 feet long, will launch from an L-1011 airliner, will reach altitudes of up to 250,000 feet and travel up to eight times faster than the speed of sound.

Mars Is Back!



NASA's Mars Global Surveyor is about to begin its detailed mapping of the Martian surface, and three more space probes are on the way. By year's end, NASA's Mars Polar Lander and Mars Climate Orbiter should be sending back data; Japan's Nozomi arrives in late 2003. And much controversy still surrounds the 1996 report that primitive microbes may have lived deep in the Martian crust some 3.5 billion years ago.

Did You Know....

If aliens were looking for life on Earth, one clue would be the unusually large amount of methane in our atmosphere most of it given off by cows and termites!

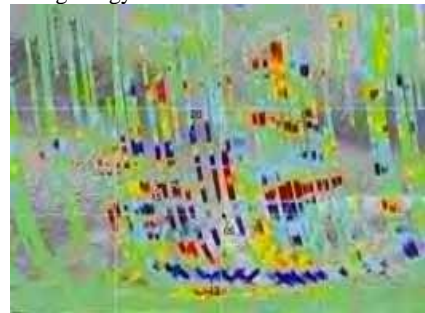
Note:

Our astronomy articles are condensed from **Astronomy and Sky and Telescope** magazines.

You can read more about these stories or subscribe at www.astronomy.com and www.skyandtelescope.com.

Ancient Mars Magnetism

New data from NASA's Mars Global Surveyor (MGS) show that during its infancy the red planet not only had a flip-flopping magnetic field but also churned internally with enough heat to drive a vigorous surface geology.



MGS data reveals that the ancient rocks in Mars's southern hemisphere are magnetized in long east-west bands of alternating polarity.

This same phenomenon is observed astride Earth's midocean ridges, at which new crust is constantly forming. The crustal rocks become imprinted with the ambient magnetic field when they crystallize from magma, and bands of alternating polarity arise because Earth's magnetic field periodically reverses direction.

Thanks!

FOTO would like to thank that generous donor who would like to remain anonymous. This person donated an air conditioner to the "O" for the Mitchel building on those hot summer days. That will make things much nicer for the Astronomy Nights programs.
