



Friends Of The Observatory *Newsletter*

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Center

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Phone 321-5186 Website: <http://w3.one.net/foto>

Bill Cartwright, editor. Email wcartw@aol.com

A Letter From President Huber

Dear "Friends",

November was a pretty good month for astronomy!! I hope that everyone got a chance to see a couple of Leonids, even if the shower wasn't the greatest here in the states.

The NKU symphony presentation of the planets went really well. Thank you to all of you that came out with telescopes a few weeks ago. I heard nothing but positive things about getting to look at the planets. Both Jupiter and Saturn were looking pretty good that night before the clouds rolled in.

Super Kudos to **Chuck Strubbe** who helped put the slide presentation together for the performance. It was fantastic!

But this month a few of our best astronomy friends will be back in the evening sky. Orion and his famed Hunting Dog will be making their yearly guest appearance. Along with Gemini and Leo the skies wintry splendor will be in full force.

I hope that everyone can make it to the Party at the "O" this month. It is going to be a good time.

Remember, It's at the Observatory and it starts at 6 PM. See you there!!



A Winter Solstice Party at the Observatory

You're all invited to FOTOS first winter solstice party!

The festivities begin at 6:00 PM on Thursday December 3rd and preempt our regular FOTO meeting. And instead of meeting at the church, we will be at the Observatory. Please bring either a side dish or a dessert that can be shared. (Mindee... can you bring

lemon squares?) You'll find a deli tray and hot chocolate and soft drinks provided. Enjoy yourself with food, astronomy small talk and general chit-chat. And come learn the definition of the *mystery word* of the month, "Gegenshein".

December Planning Meeting

December's planning supper meeting will be held at 6 PM Wednesday December 9th at the Cooker Restaurant in the Hyde Park Plaza. We're holding it a week earlier than usual because of the Christmas holiday.



Looking-Up In December's Sky

- 1- Mercury is in inferior conjunction.
- 2- The moon is at perigee (222,974 miles, closest to the Earth).
- 3- The moon passes 0.6° north of Aldebaran; Full moon.
- 9- The moon passes south of Regulus.
- 12- The moon passes 2° north of Mars.
- 13- Geminid meteor shower peaks The moon is at apogee (252,126 miles, most distant from Earth).
- 16- Mars is at aphelion (154.9 million miles from the sun); The moon passes 3° north of Mercury.
- 18- New moon. Planet Alderon will be vaporized by the Death Star in another 437 years.
- 19- Mercury is at greatest western elongation (22°).
- 21- The moon passes 2° north of Neptune; Winter solstice. Spring in 90 days.
- 22- Mercury passes 7° north of Antares; Moon passes 2° north of Uranus.
- 25- The moon passes 1° south of Jupiter. No more shopping days.

26- First quarter moon.

27- The moon passes 2° south of Saturn.

- The moon is at perigee (226,044 miles, closest to Earth); The moon passes 1° north of Aldebaran. Kiss your non-YT2K computer goodbye.

Volunteers Needed

Please Help!!! FOTO can use your special skills. We need your help for a wide range of basic tasks. Our top four needs are listed below. If you would like to pitch in please call John Ventre at the Observatory at 321-5186.

- 1) Data entry skills to enter names and numbers into the computer
- 2) Librarians and historical researchers.
- 3) Simple cleaning jobs.
- 4) "Astronomy Thursday" helpers.



Welcome New Members!

**Terrance Lasance; Wayne Pafko; James Steinkamp; Tracey Martin;
Kathy Evers; Jean Davison.
Please come to our party on December third.**

Eyepieces Coveted

The FOTO Board decided we are in need of eyepieces for the telescopes. Any one who has been lucky enough to look through the Mitchel scope with the brand new 55mm Plossl knows what a difference a good eyepiece can make. It has been recommended that we upgrade our eyepieces and eyepiece accessories. Below is a list of the recommended items.

- 1) Televue Barlow 2": \$179
- 2) Set of 4-color filters for view enhancement: \$ 89
- 3) The eyepieces all have been tested and are of the highest quality.
 - a) 20mm Nagler: ca.\$339

b) 27mm Panoptic: ca.\$349

c) 12mm Nagler: ca.\$309

d) 16mm Nagler: ca.\$309

Remember these are only recommendations and the final decisions will be made at a later date. This is just a preview so that the members can see how we are looking to improve the Observatory.

Write Your Senator and Representative Support The Cincinnati Observatory Center

By John E. Ventre

Ohio State Senator Finan has very generously included a \$100,000 line item in the state's Capital Improvements Budget for The Cincinnati Observatory Center. The money will be used to make some urgently needed repairs to the Observatory.

The Observatory is very fortunate to be included in the budget. The request was made just several months ago. Typically a request has to be made for several years before it is included in the budget.

Now we have to write our local Ohio State senators and representatives to request their support of the bill. The vote on the bill is scheduled for early December; therefore it is important that we write the letters now!

Please fax your Senator and Representative today. Note that all Representatives share a common fax number.

Ohio Senators:

Louis W. Blessing FAX (614) 466-7662.

Richard H. Finan FAX (614) 728-7027.

Janet Howard Phone FAX (614) 466-4250.

Ohio Representatives: They all use this general FAX # 644-9494

1. Samuel T. Britton, Patricia Clancy, Jerome F. Luebbers, Mark Mallory, Jacquelyn K. O'Brien, Robert L. Schuler, Dale N. Van Vyven, Cheryl J. Winkler.

Recommendations for Correspondence:

Keep the message short and to the point. Start out requesting their support of "HB 850, State Capital Improvements Bill, University of Cincinnati Line Item CAP-210, \$100,000, The Cincinnati Observatory Center Improvements."

Then include one or two short paragraphs explaining your personal reason why you support the bill. Consider referring to the educational implications, historical significance-vis a vis cornerstone laid by

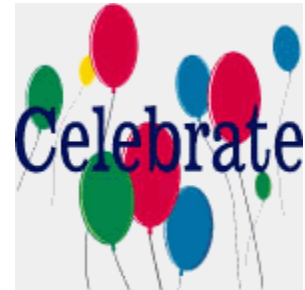
John Quincy Adams, Birthplace of American Astronomy,

oldest operating professional observatory in U.S., probably the oldest continuing used telescope in the world, National Historic Landmark, improvements (repairs) are urgently needed for this landmark, supports amateur astronomy, etc.

NKU Concert A Space Age Success

The world of music and astronomy coalesced in two concerts held on November

14th and 15th. The Northern Kentucky Symphony and The Cincinnati Observatory Center joined forces to present an onstage, multimedia presentation of Holst's "The Planets" and Husa's "The Apotheosis of this Earth".



Thanks to donated equipment from Encore Productions, FOTO members and supporters of the Center provided an electronic slide show that was queued to the orchestration. Most images were collected off NASA internet sites while several were created by **Chuck Strubbe** to fill in the gaps. **Jeff Hutton, John Ventre, John Schroer, Paul Nohr, John Bevan and Gerry "The Scan Man" DeMarco** helped Chuck gather the images. Chuck was able to precisely time the presentation with the help of several musicians.

Reaction from both audiences was magnanimous. Cincinnati Post reviewer said, "The projections combined with the music for a profound and powerful effect." Symphony conductor J.R. Cassidy, acknowledged **Chuck Strubbe** by asking him to take a bow after each selection.

In addition to the concert, FOTO members **Scott Naylor, Jim Shephard, Sheila**

Riley, and Jeff Hutton provided telescopes for viewing Jupiter and Saturn before the concerts.

John Ventre, JoAnne Pedersen, Andy Bruggeman, Greg Huber, and Tricia Bevan provided information and general goodwill to curious audience members.

Channel 12 covered the event for the 11 o'clock news. **Greg Huber and Scott Naylor** were featured as the background for the weather report.

Overall the event was a success for both the Northern Kentucky Symphony and the Cincinnati Observatory Center. Our thanks goes out to all who helped.

Did You Know....

A man bicycling on the Moon, could for a while, easily keep up with the terminator whose maximum speed is only 10 mph.

The Cincinnati Observatory Center Update

By John E. Ventre

The "new" target date for completing the contracts that will transfer control of the observatory from the University of Cincinnati to the Cincinnati Observatory Center is December 31. The Code of Regulations will probably also be completed by this time. An attorney will be assigned to complete the federal (501)(c)(3) tax exempt application.

We are negotiating with Adler Planetarium in Chicago to acquire a truckload of astronomical exhibits that they no longer require.

A grant proposal has been submitted to Toyota to acquire a new robotic telescope. We have received negative replies from two other grant proposals; the reason is that Cincinnati Observatory does not yet have its tax exempt status.

UC has agreed to furnish a new telephone system for the Observatory. This will be a system that has mail boxes, thus permitting multiple messages.

The defective steps on the Mitchel Building have been replaced with new sandstone steps. Also, the stone supports for the steps were tuck pointed. The expenses for the steps were paid for by UC, and the tuck pointing was donated by the vendor.

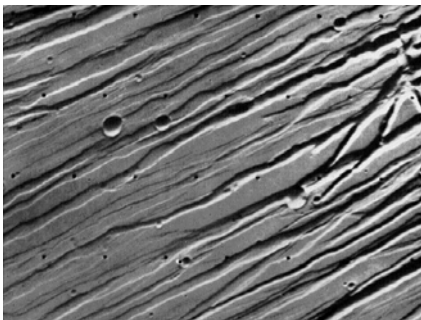
The serious roof leak in the Mitchel (small) building was repaired by UC. A Coca Cola can and some tar left over from the roof repair were clogging the drain pipe. UC has agreed to replace the downspouts on the Cincinnati Observatory (large) building, thus eliminating the water leaks into the building and its foundation.

The "Owl Event" fund-raiser in November netted approximately \$9,000!

The Cincinnati Observatory will probably start charging a nominal fee in 1999 for "Astronomy Thursdays" and school visits to the Observatory.

Did You Know....

A neutron star consists of matter so compressed that subatomic particles, chiefly neutrons, are in actual contact. If the Sun were squeezed into a neutron star, it would be about 8 miles across! And a one pound object placed on the surface of a neutron star would weight 20 trillion pounds!



Dunes & Lava Flows on Mars

The Mars Global Surveyor has found the first evidence that lava solidified into giant plates long ago on the red planet and that sand dunes were blowing around as recently as this past summer.

The close-ups of Elysium Basin showed that the hardened lava sections seem to have broken up and moved like rafts across molten lava millions of years ago. That implies giant lava ponds once formed from flows hundreds of miles across the planet's northern lowlands, scientists said.

Between late July and mid-September, Global Surveyor passed over the north polar dune fields four times a day. The sand particles appear either to have hopped or rolled because of the wind, scientists said.

Some of the dunes appeared coated with thin, bright frost remaining from the northern winter season that ended in mid-July.

Did You Know....

In 453 BC, the Greek philosopher Anaxagoras suggested that the sun was not just small glowing circle of light. He maintained it was a glowing rock over a hundred miles across! For that outrageous statement, he was exiled from Athens.

Leonid Meteor Shower

Thanks to **Shiela Reily's** organizing and a number of dogged volunteers armed with five telescopes, about 60 happy people had plenty of viewing time at East Fork Lake. With clear skies everyone saw at least a couple of meteors.

Thanks also to **Tom McDonough, Jim Morrow, Scott, Andy Bruggeman, George Riley and Chuck Strubbe** for bringing telescopes and helping those who came out to witness this astronomical event.

Mystery of the Supernova No One Saw

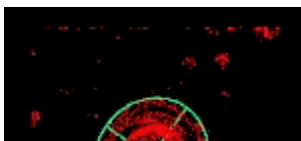
Astronomers have discovered evidence that hundreds of years ago a star exploded closer to Earth than any other known supernova. They just can't figure out why no one back in the 13th century seems to have recorded the blast, which should have been a spectacular sight.

The supernova should have appeared for a year or more as the brightest object in the night sky, except for the moon, around the year 1250. Presumably, the great astronomers of the Orient should have been able to see it just above the horizon, sometimes even during the day.

But they made no known observations of it!

The explanation may be that the explosion of superheated gas and radiation may not have given off visible light. The new work ``offers the possibility that we're looking at a new and different phenomenon,".

In analyzing the radiation, the astronomers found that the explosion's gas cloud is still out there and is twice as hot as the sun's core, and stretches up to 25 light-years across.



The Planet-Disk Connection

by Robert Naeye, Astronomy Magazine

Astronomers are particularly excited about a new image of a disk around 55 Cancri, a star 40 light-years away, that's slightly smaller and cooler than the sun. Unlike the other stars, 55 Cancri is known to be orbited by a planet.

The image above shows a disk of cold dust that extends at least 27 to 44 Earth-sun distances from the star. The disk appears to be similar in both size and composition to our solar system's Kuiper Belt.

Catching Every Photon

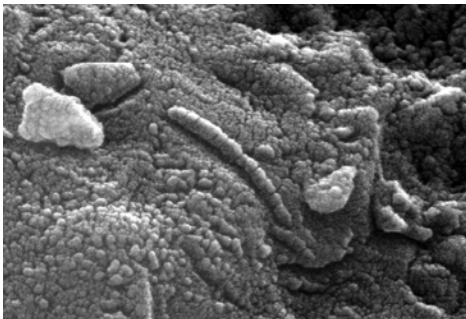
by Rex Graham, Astronomy Magazine

The best conventional light detectors in most telescopes are called charge-coupled devices. These CCDs are made of a small semiconductor chip divided into thousands of pixels; the pixels count, for set lengths of time, the number of photons absorbed to create a two-dimensional image of the light source.

The new detector also has pixels, each about the width and length of a human hair, but each one measures not only the two dimensional position of arriving photons, but also the time of arrival and the energy of each one.

Did You Know....

Because of Titans moderately dense atmosphere and low gravity, it would be the easiest object to land on in our solar system.

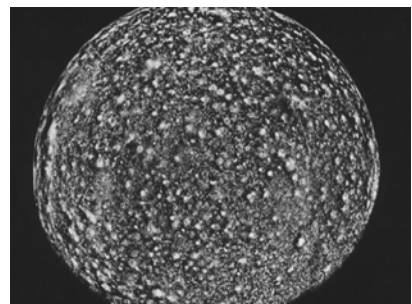


Is this the fossilized remains of extraterrestrial life? Scientists claim that this worm-shaped structure, found inside meteorite ALH84001, may be the fossilized remains of an ancient Martian microbe.

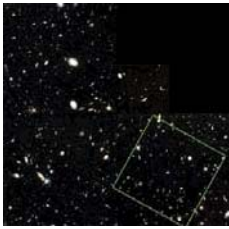
Earth Pounded by Distant Stellar Burst

On August 27, a supercharged blast of high-energy radiation washed over our planet. The blast originated when a massive "starquake" wracked a highly magnetized neutron star, or magnetar, located 20,000 light-years away.

With a magnetic field 800 trillion times stronger than Earth's and



some 100 times stronger than any other known in the universe, even the rigid crust of a magnetar can ripple and crack. Such a starquake released the torrent of high-energy radiation that inundated Earth on August 27.



Deep Field - Revisited

The NICMOS Deep Field (in the square box at the lower right) covers about one-eighth of the original Hubble Deep Field, shown above.

The image, taken mostly in visible light by the telescope's WFPC2 camera, was the deepest ever taken -- showing magnitude 30 (the brightness of a lit cigar on the moon as seen from Earth) galaxies that appeared as little more than faint red blips and fuzzy blue blobs.

Hubble has just gone even deeper into the universe. A new image taken by NICMOS, the telescope's infrared camera,

captures galaxies one magnitude fainter than the faintest in the original Deep Field about 700 million years after the Big Bang.

Callisto May Have Subsurface Ocean

Europa may not be the only large moon of Jupiter to have an ocean! Data returned by the Galileo spacecraft suggests that Callisto, may have a salty ocean of liquid water hidden beneath its cratered surface.

Such an ocean would have to be at least 6 miles thick to support the magnetic field, scientists said. It would likely be buried beneath about 120 miles of ice on the surface!.

Neither Callisto's extremely tenuous atmosphere nor its icy crust could support the moon's magnetic field, but a subsurface liquid could. If this liquid were salty like Earth's oceans, it could carry sufficient electrical currents to produce the magnetic field.

Biologists believe liquid water and energy are then needed to actually support life, so it's exciting to find another place where we might have liquid water.

Deep Space 2 Update

Deep Space 2, the next New Millennium mission, is scheduled to fly in January. Two small soil-penetrating probes will be launched aboard the Mars Polar Lander, and shot into the planet's south pole.

Did You Know....

At its center, the Sun has a density of over 100 times that of water.

Stories Not in Dec. Newsletter

Did You Know....

The Moon fits snugly over the sun. It is a sheer astronomical accident and it is what makes a total eclipse possible. The moon is just large enough to cover the sun completely, at times, as seen from the Earth. It is also small enough so that during the sun's obscuration the corona, especially the brighter parts near the body of the Sun, is completely visible. There is no astronomical reason why Moon and Sun "fit" so well. The Earth, among all planets, is the only one so blessed.

SETI Hoaxer?

Claims that a British amateur has discovered a radio signal from an alien intelligence have been debunked as a hoax by SETI scientists. The anonymous Briton, claimed to have detected a signal from the star EQ Pegasi.

However, other amateur and professional SETI researchers have picked up no signs of such a signal, although a signal was detected from that star in September by Project Phoenix at Arecibo but failed to pass their stringent confirmation checks.

Still, the amateur claims the signal is true and is reportedly planning a press conference as early as this week to formally present his claims.

Did You Know...

A one pound object placed on a neutron star would weigh 20 trillion tons.