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News Flash – Lighting Violation Discovered at Sports Complex

After the Milwaukee Rampage installing lights this spring without a valid permit, the Franklin Common Council continues to allow the Milwaukee Rampage to operate while they attempt to gain compliance. Now a City of Franklin building inspector has documented a violation of that City's lighting ordinance by the Rampage. However, neighbors and astronomers will be surprised to know where the violation exists. The only property in violation is on the south-east corner of the Sports complex despite the fact that the lights illuminate areas 1/2 mile away and cast shadows on objects as far away as Puetz Rd. The question now is, "What is a lighting violation?" Aldermen appeared bewildered by the terms of "light spillage", "light glare" and "light trespass". Code officials admitted their City code could use some help.

At the August 6th Franklin Council meeting Mike Rambousek, Franklin's planning manager, said he went out to measure the noise and lighting levels during a Rampage game on August 2nd. He admitted he is NOT a lighting expert, but proceeded to measure the light levels around the complex. He claimed he got a zero reading from Puetz Road, Froemming Park, Ryan Rd. and all of the eastern border including the condominiums, except for a south-east corner with a level of 7.5 foot candles. He said a Franklin street light gets a reading of 2.5 foot candles. He said at the zero level locations he "couldn't see his hand on the meter."

Alderman Netzel said he and a Franklin police officer drove around to measure sound levels and nothing went over the 70 db limit required for a violation. Alderman Basil Ryan expressed his dismay at how there could not be a violation, yet the light is enough to illuminate photos at the Wehr Observatory 500 ft away? The alderman didn't believe the photos submitted by WAS because there was no time listed on them. (Todd Weiler told the alderman after the meeting the time was after 9:00 PM probably 9:15 PM.)

Rambousek said there is no question there is glare from the lights and that the telescopes would pick that up. Ryan said the

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bigger problem is the homeowners that can't move and have to draw their blinds to block out the light. There was a lengthy discussion about how the violation is spelled out in their code. The terms in question are light spillage, light trespass and light glare.

There was a proposal by Ald. Ryan to have the City hire a lighting expert to get an independent view of the problem. Discussion on that item was all over the place. Ald. Taylor said every business in Franklin should be measured so don't do it. Ald. Dorsan said what if someone challenges the City and since their own inspector admitted not being an expert, what would be the liability? Ald. Bergmann said it was a waste of taxpayer's dollars and a duplication since their own City inspector has given his report. Alderman Taylor, Bergmann, Solomon and Mayor Klimetz were clearly in the Rampage's corner saying the Rampage has been showing signs of cooperation, promising to install more shielding, dimmers for the lights and re-aiming some lights. They also noted the use of the facility for the Franklin graduation and high school dances. Solomon even read Harwood's email from the Rampage to Tim Grunewald seeking a list of dates the observatory would be in session so as to avoid conflicts. Some efforts may be moot since the soccer league has a standard that may exceed the local limit. Officials said they are trying to get a copy of those rules. The motion to hire an outside expert was dropped when it was proposed that a re-measurement be done with Ald. Ryan and Rambousek doing it together.

When pressed, Rambousek said there was a violation. However, for the moment the feeling of the council is to look the other way and wait for more changes. In the meantime the lights are on, the games continue and another meeting is scheduled for September 10th. Before the next meeting Alderman Ryan, Inspector Rambousek and contractors from Mussco are going to go out and re-measure the lights hopefully after all the changes are completed. Alderman Ryan is seeking information on the definitions of the terms in the ordinance and a list of outside experts for possible future consulting.

- Todd Weiler



Important Notice!

Our web site, wehastro.org is really looking great. Tim has done a great job! Thanks again for all your time and talents, Tim.

Our newsletter is also online now and can be downloaded off the web to be printed. Some members have chosen not to receive a mailed newsletter and will print their copy off the web. This is a great idea and can save the club from expensive postage costs.

My purpose in writing this article was to ask all members who have access to the web to try downloading the newsletter and save the club postage. If it works for you, notify one of the board members by phone, email or in person that you want to be taken off of the newsletter mailing list. We will notify you by email when the next newsletter is available on the web.

Thanks,
Sandy Dombeck, Treasurer



Thank You's

This past quarter we received a few club donations and the Wehr Astronomical Society would like to give thanks to the following:

Keith Taylor

- ★ 1&1/4" eyepiece holder/drawtube
- ★ 6 X 30mm finder scope

Both brand new, and will be used for the 6" telescope project.

Karen Kerans

Computer software called MaxIm DL/CCD Version 3.x, and requires a CCD camera, a PC, and a computerized telescope which will interface with all said equipment. It consists of a spiral bound User Guide and CD.

Thank You from the W.A.S. Board of Directors and all W.A.S. members.





Pluto

Data gathered from a recent observation of Pluto on July 19 as it passed in front of a dim star called P126A confirmed previous data gathered from a similar event in 1988 that Pluto's thin atmosphere is made up mostly of nitrogen, plus traces of methane and carbon monoxide. It also confirmed that, as expected, the atmosphere is cooling as Pluto swings farther away from the Sun after its closest approach in the last decade.

What wasn't expected were the readings that indicated that Pluto's surface is actually getting warmer. It is thought that a smog layer, created by the above-listed atmospheric components, could be insulating the surface and preventing the escape of the captured Solar heat. Soon, however, as Pluto moves even farther away from the Sun, even this gaseous layer will freeze out and all the atmosphere will sublime once more into "snows" on the surface.

In a remarkable bit of timing, another occultation recently occurred on August 20 with the star P131.1 that astronomers are using to try to confirm the July 19 data.

All this is being used by the National Research Council to press for funding to be restored to the Pluto-Kuiper-Belt mission of 2006 (which would reach Pluto a decade later,) scrubbed by NASA as an economy move. In July, a Senate appropriations subcommittee did vote to restore the funding, so now action awaits the House of Representatives to take it up after the August recess.

Neptune & Uranus

Recent overhauling of the data taken of Neptune's orbit by Voyager II's fly-by have been micro-fine-tuned to produce the most exact measurement of its orbit yet. The results, coupled with the much more known orbit of Uranus, have

produced results that all but eliminate the possibility that they both are being influenced by the gravitic pull of a still-unknown "Planet X." (It should be recalled that it was the postulating of a Planet X affecting the orbit of Uranus that led to the discovery of Neptune, and consequently, the similar interpretation that led to the photographic discovery of Pluto.) However, no such permutations remain in the two planets' orbits that have now been refined so minutely, so like Lowell's Martian Canals, Planet X also takes its bow from the realm of speculation.

Saturn

Unlike the unfortunate CONTOUR deep-space comet probe (see below,) the Saturn-bound Cassini-Huygens spacecraft successfully completed a scheduled mid-course-correction burn of its main engine in April, keeping it on track for a rendezvous with Saturn in January 2005. These burns are also used to keep the engine in routine maintenance and to keep the fuel lines from becoming clogged. There have been thirteen such burns since its launch in 1997, and the next scheduled burn will be in May of 2003.

Another bit of good news from Cassini was that a clouded main camera lens was successfully cleared up by a touch of gentle heat applied through the lens system. (No dew shield mounted though...)

Jupiter

With confirmation of calculations made throughout the first part of this year, Jupiter has been identified as having another 11 moonlets than previously discovered. This means that Jupiter has the largest accretion of moons in the Solar System: 39. The calculations were completed in May of this year, and confirmed that the photographic streaks investigated were truly Jovian satellites, and not asteroids in the vicinity. Of course, all the news moons are most probably captured asteroids. (The total of 39 does not include the Trojans at Jupiter's LaGrange points.)

Mars

Data from the Mars' Orbiting Odyssey's Thermal Emission Imaging System (THEMIS) have conclusively proven that there are vast deposits of water ice under the Red Planet's surface. It has always been known that ice existed near the poles, and in deep craters, but this ice has been

determined to be just several meters below the surface and in locations much nearer the equator than previous ice detected near the poles.

Since this would enforce theories of prehistoric oceans on Mars that drained down below the dried-out surface, these findings by the THEMIS system will lead to a narrowing of locations in which to put down the next set of Mars robotic rovers, scheduled to leave for Mars in 2003.

Venus

Where the spacecraft Magellan with its radar imaging was the first to reveal the Venusian surface features, now that capability has been reproduced on Earth with the activation of the National Science Foundation's Robert C. Byrd Green Bank Telescope in West Virginia. The 330-foot- (100-meter-) wide dish bounces powerful radar beams off the cloud-shrouded planet, and in tandem with the recently upgraded Arecibo telescope in Puerto Rico, it has produced new images of the surface of Venus, with surface features resolved down to less than a mile.

In addition, radar altimeter readings produced have confirmed that a mountain, Maxwell Montes, is definitely taller than Earth's Mt. Everest.

Moreover, using the same techniques, astronomers at the two radio observatories hope to soon turn their dishes towards Saturn and attempt to measure any mountains and ranges on the similarly cloud-shrouded moon Titan. The radio telescopes have already produced an image of Asteroid 2001 EC16, which is just 500 feet (150 meters) across, and have revealed to details down to 50 feet, plus determining that this asteroid rotates about once every 200 hours, which is one of the slowest rotation rates measured so far for any asteroid.

Mercury

A space probe return to the innermost planet is still planned for launch in March of 2004. Called Mercury Messenger, it will use the "economy route" by employing a fly-by past Venus in July of that year, to pick up more velocity, swing by Venus again in March of 2006, swing by Mercury in both 2007 and 2008, then settle into orbit in 2009. This would be the first orbiting satellite of Mercury, the previous U.S. and Russian probes being either one-time fly-bys or direct impactings.

Mercury Messenger will have instruments to detect, like the Mars Odyssey, what constitutes the below-surface crust elements, plus measuring its atmosphere and magnetosphere, so affected by the nearby Sun.

Earth

NASA's CONTOUR (for Comet Nucleus Tour) deep-space probe that left Earth on July 3 has now been determined by Hubble photographs to have split into at least three major pieces, following an ignition of its main motor on August 15 to push the spacecraft out of Earth orbit. No radio signals have been received following the burn, and as a result, NASA's Deep Space Network will halt continuous monitoring at the end of August. Periodic attempts will be made for the rest of the year to pick up any chance of a return signal, but the three pieces detected so far have trajectories taking them far from both the Earth and even the Sun, so that little hope is held for any further contact.

Since the spacecraft was spinning at a planned 60 revolutions per minute, it is suspected that eccentric burning of the engine caused the craft to wobble and put its components into stresses it could not handle, thus causing breakup.

CONTOUR was to have gone into solar orbit and intercepted comets approaching the Sun to gather data on their elements.

- Jay Wichmann



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Nebraska Star Party

Close your eyes and imagine... A cool but windy evening with a slowly darkening western sky. One bright object appears before anything else, someone yells, "there's Venus." So everyone moves their telescopes to inspect the shrinking gibbous phase. After everyone has had their fair share of time at the eyepiece, you notice two more stars, Vega and Arcturus. The observing field is now bustling with activity, some people are starting to align their goto telescopes, others are perfecting the collimation of their giant Newtonian telescopes.



Adam Machajewski

The Milky Way spanned horizon to horizon

While some people are just taking it easy having a soda, sitting in lawn chairs.

The next time you look at the deep blue sky, you see the constellations start popping out, Ursa Major, Cas-

siopeia, Cygnus, Sagittarius, Ursa Minor, ... and are amazed that you can see the Milky Way. Now you start checking out the usual show piece objects, M13 (the Hercules Globular Cluster), M57 (The Ring Nebula), M31 (the Andromeda Galaxy), you are amazed at how much bigger and brighter they are than you remember.

When you look at the sky again the Milky Way now stretched from the southern horizon in Sagittarius through Cygnus and continues to the northern horizon. While you are gawking at the Milky Way a -2 magnitude Perseid meteor quickly shoots across the sky, leaving a faint smoke trail. Some people begin applauding the performance while others are wondering what all the commotion is about.

As the night continues on you look at 50 or so faint fuzzies, you look down at your watch and "wow it's already 4 am." Saturn now is making its way above the eastern horizon, so you take a look

and it's not too impressive so you figure you had a successful first night of the Nebraska Star Party and pack up your telescope and head off to bed, knowing there's a good chance you can do it all over the next time the sun sets.

The Star Party didn't start off this perfect. We didn't have a dark night until Tuesday. Sunday the sky was completely overcast with fog, Monday clear skies teased us. The sky was cloudless until it was just dark enough to see the stars, when completely opaque clouds blew over the Merritt Reservoir. The remainder of the week had mostly clear skies.

The only major disappointment of the star party was the constant 20 mph wind. Not only did it make seeing the faint fuzzies more difficult it made the camping a challenge as well. Many people had some piece of camping equipment broken or lost due to the wind.



Adam Machajewski

Our Star Party Family

The Star Party was held at the Merritt Reservoir, which is about 30 miles south of Valentine in North Central Nebraska. The Merritt Reservoir is owned by the state of Nebraska and surrounds an eleven mile long 2906 acre lake with 44 miles of white sandy beaches. The Reservoir is supposedly a fisherman's paradise, and it seemed that way. On the weekends the Reservoir was packed with fisherman.



Adam Machajewski

The reservoir was surrounded with beautiful beaches

The 9th annual Nebraska Star Party was an extremely relaxing week long vacation. If you can manage a week without all the modern conveniences of home, you will be rewarded with beautiful beaches and a completely unpolluted environment, land, water, air and sky. The closing of this experience had me needing to return in the near future.

-Adam Machajewski-



Observer's Corner NGC 457 (The Owl Cluster)

This quarter we will be directing you to an open cluster that somewhat looks like an owl with its wings spread out.



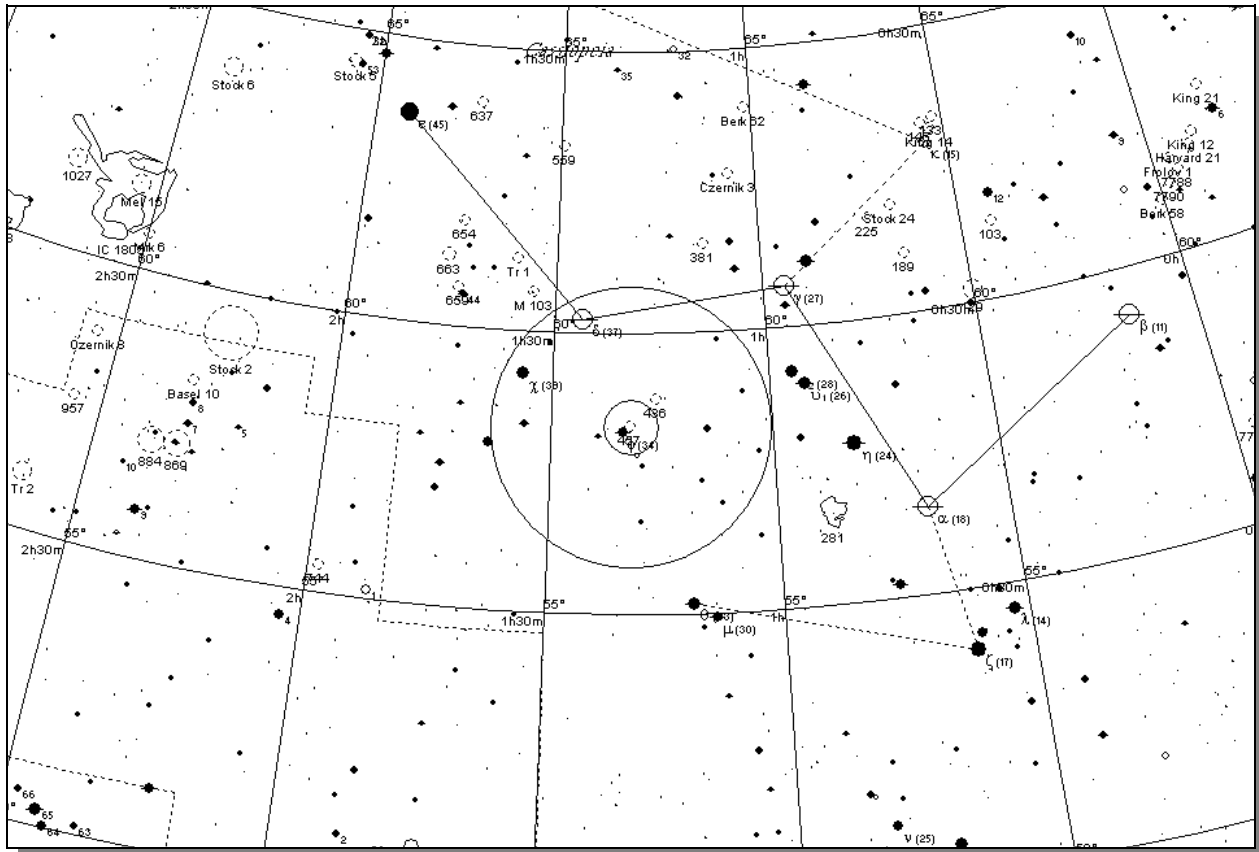
NGC 457, nicknamed the Owl Cluster, is a dim open cluster of about 80 stars. It has two stars that are fairly bright at magnitudes 5 and 7 that form the "eyes" of the owl.

distance away in the direction the "W" points is χ Cassiopeiae, which should also be in your finder-scope's field of view. Now looking toward the middle of the "W" you should see another star about the same brightness as χ Cassiopeiae that forms a right triangle with the three stars that I mentioned. Center your scope on that star and you will have found NGC 457.

In the suburbs, a 6" and above will show the cluster nicely. In a 4 1/2" scope you may have to use averted vision to see the cluster. In a 60mm or 80mm you may just see a double star unless your eyes are dark adapted or you live in darker skies.

We start in Cassiopeia, the "W" constellation. Put your finder-scope on the lower, left star of the "W". A little

-Tim Grunewald



Summer Observing vs. Winter Observing

Every now and then we have this discussion at the observatory – Which is a better time for observing? Summer or winter? Each season has its pluses and minuses.

Let's start with winter observing. For most people it is just too cold in the winter to do any observing. Who wants to bundle up with 5 layers of clothing to go out observing? After all, it makes it difficult to handle those expensive eyepieces or to fine tune your focus on that faint object. So, summer would be a better choice when you can just wear shorts and a tee shirt. Ah, but then we forget about those blood sucking mosquitoes. So, we had better forget about the shorts or they will be gnawing at our legs. And a long sleeve shirt would help in keeping them off of our arms. Yea, now we are set, but sweating a little from wearing clothes for fall in 80 degrees. So maybe putting on a few layers of clothing in the winter doesn't seem so bad.

It may be warmer in the summer, but another thing that most people forget about is that it doesn't get dark until after 10:00. So, forget about showing the sites to the youngsters. Many times it is the debate of going out to observe for a few minutes or go to bed. Usually, going to bed wins out. So, then we are back to winter where you can observe for several hours starting right after supper time. That is, of course, if you can find clear skies. Here in Wisconsin, December is our cloudiest month, closely followed by November. So then maybe summer has more opportunities to observe. But then there is the humidity which diminishes our view by scattering the faint light from the galaxies that we are trying to observe. You can always tell when the skies are going to be dim by looking at the horizon during the day. If you see a white or gray horizon, you know that the atmosphere is full of humidity. Due to the warmer temperatures during the summer, the air can hold alot of moisture. So maybe the cool, crisp air of winter is a better choice. Since it is cold, the air can't hold much moisture, so the skies are clearer. But when it is really cold ice crystals can form high in the atmosphere. So the result is about the same as the humidity of summer. And with the cold air of winter comes more time to cool down your scope. This is especially

true if you store your telescope in the house.

So which season is really better? Well, honestly, I like late summer/early fall. You have the most diverse set of objects in the sky at this time. Most of the showpiece objects are out at this time of year. Plus, the Milky Way it at its finest this time of year. The temperature is just right and the mosquitoes aren't as annoying.

- Tim Grunewald



From the Editor

The Board has decided to cut the size of the newsletter to eight pages due to the rise in cost of postage. A ten page newsletter is right at the border line as far as the weight goes. So, to avoid any confrontations with the post office we have decided to cut the overall size of the newsletter by one full sheet. Hope you all will understand our doing so.

- Adam Machajewski

Lunar Phases

	October 6	New
	October 13	First Quarter
	October 21	Full
	October 29	Last Quarter
	November 4	New
	November 11	First Quarter
	November 19	Full
	November 27	Last Quarter
	December 4	New
	December 11	First Quarter
	December 19	Full
	December 26	Last Quarter



SCHEDULED ACTIVITIES

FOR

The Wehr Astronomical Society

<http://www.wehrastro.org>

Regular Meetings

(Free and Open to the Public)



Tuesday, October 8, 2002 7:00 p.m.

Asteroids

Jay Wichmann will be presenting a program on asteroids.



Tuesday, November 12, 2002 at 7:00 p.m.

At the Wehr Nature Center

What you NEED to know about buying your holiday telescope. See members telescopes up close and in white light.



Tuesday, December 10, 2002 at 7:00 p.m.

Observational Astronomy

Adam Machajewski will be presenting his results of a semester long, independant study college course.

Observatory Activities

(Free and Open to the Public)

October 11	7:30	Observing the moon and deep sky objects See a 1 st quarter moon and the brighter deep sky objects.
October 25	7:00	Deep sky observing The Northern Cross and the Summer Triangle.
November 8	7:00	Observing the moon and deep sky objects See a crescent moon and the brighter deep sky objects. Locate Uranus and Neptune.
November 22	7:00	Observing the moon and deep sky objects See a near full moon and the brighter deep sky objects.
December 6	7:00	Deep sky observing Locate Pegasus, the Winged Horse.
December 20	7:00	Observing the moon and deep sky objects The Moon Illusion. See a near full moon and the brighter deep sky objects. See Saturn (closest to Earth on Dec. 17).

Note: All observatory dates fall on a Friday, and are held at Froemming Park.

Wehr Nature Center

9701 West College Avenue
Franklin, WI 53132

Froemming Park

8801 S. 51 St.
Franklin, WI 53132