



FARPOINT OBSERVATORY

THE NEKAAL OBSERVER

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(785) 806-1177 www.nekaal.org

The official newsletter of Farpoint Observatory and the Northeast Kansas Amateur Astronomers' League

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Your articles and other contributions to this newsletter are welcome and encouraged. Please get them to the editor at least 6 days prior to the next scheduled meeting.

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FROM THE PREZ: By Jerry Majers

Fortunately, we don't have to say good-bye to Mars in early October. The Red Planet will hopefully remain bright enough for the late observers to view and study Mars at it brightest and closest before 2018. Likewise, those with binocular or telescopes still have the challenges of a "greenish" Uranus(4.3 mag) and a "blueish" Neptune(7.9 mag) floating in the distance beyond Mars. For easy challenges, view the "Hunter's Moon" October 9th when it is full. Yet when the moon is only at half on 17th it will pass Saturn (which can be confirmed by viewing its rings) and the 21st when it passes Jupiter (which can be confirmed by viewing its four moons/ and the bands on the Planet surface). For those who enjoy sitting back and

letting the sky to fall, the annual Orionid shower will be the nights of October 21 and 22. The Orionid meteors derive from left-over particles from Comet Halley. If the Northern Topeka lights are not too strong, M33 (Pinwheel Galaxy) and M31 (Andromeda Galaxy) are nice to view this time of year, especially after a rain. The night after a rain, provided it is clear sky, will have washed the dust and pollution out of the air. This greatly improves transparency (clearness) and hopefully the seeing (atmospheric turbulence) will have settled. All makes autumn sky watching comfortable and challenging, so be out and enjoy the cool dark night skies of October.

Clear Skies,
Jerry R Majers.

OUR NEW LOOK: By Graham Bell

This issue of *The Observer* initiates the new distribution method, Most of you received this issue via email, some are still getting it via USPS.

Those receiving the PDF email version will notice that *The Observer* is more colorful. I was too cheap to pay for color copying, but there is no added cost for color email. If you are getting the snail mail version, you don't have color, and you might notice that the grayscale images are not quite as good

as they were. In the past I converted color images to grayscale before inserting the images into the document. Now they are printed in color, but the print shop copies in black and white, which can throw off the grayscale balance.

If you didn't receive the email version this month, and want to in the future, please contact Janelle at the address shown on page 8.

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SKY HIGHLIGHTS FOR OCTOBER: by Janelle Burgardt

October 1	First quarter moon
October 7	Mars is 3.6 degrees southeast of Uranus
October 10	Full moon October's full moon is called the Corn Moon or Barley Moon. This year, it is also the Hunter's Moon.
October 18	Last quarter moon
October 21	Orionid meteor shower.
October 25	New Moon
October 26	Daylight savings time ends
October 31	First quarter moon

- Mars is still an impressive 20" (magnitude -2.0) at the beginning of the month, but shrinks to 15" by the end of the month.
- Saturn has been a bright morning star in Gemini. By the end of the month, the planet rises around 9PM.
- Jupiter has emerged from behind the sun, and rises before 2am by the end of the month. It is located southeast of the Sickle in Leo.
- The Andromeda is well-placed for viewing,
- By 9pm, the Pleiades are above the eastern horizon, leading the way for the constellations of winter.

MISSION VALLEY FOOTBALL AND FARPOINT OBSERVATORY: by Janelle Burgardt

You might wonder how football games at Mission Valley High School affect observing at Farpoint. In a word: LIGHTS. On nights when MVHS hosts games, there is, as can be expected, extra traffic, dust, and noise, and the lights of the football field. You might think that these things all end with the game, but this is not the case. Even away games impact your observing schedule.

FPO has an agreement with MVHS to be able to turn off the lights of the parking lot and school after cars have left, usually after midnight. After home games, the players and coaches remain after the crowds have gone. Usually, this still allows us to douse the lights around midnight. However, away games bring the players back later, sometimes much later, delaying

the time when we can safely turn the lights off.

A summary of the MVHS varsity football schedule is listed below. Keep these dates in mind while planning your observing sessions. And Go, Vikings!

(They had their first league win since 1996 on September 19).

MVHS Varsity Football Schedule 2003

Oct. 3	Rossville	Home
Oct. 10	Osage City	Home
Oct. 17	St. Marys	Away
Oct. 24	Wabaunsee	Away
Oct. 30	Northern Heights	Home

ROOF REPAIR AT FARPOINT OBSERVATORY - OCT 4:

It is time to do some repair at Farpoint. The wheels on the rolling roof need to be replaced.

We have scheduled this for Saturday, October 4, at 1:00 p.m. Rain date is

October 11.

Volunteers are required. We need at least three people to accomplish this task.

Please contact Bill Leifer and get your name on the 'Will Do My Duty' list. His email address is:

williamleifer@usa.net

BOARD MEETING SUMMARY, SEPTEMBER 14, 2003 : Janelle Burgardt

Present: Graham Bell, Jan Burgardt, Walt Cole, Bill Leifer, Jerry Majers, Russell Valentine

Absent: Mike Ford, Gary Hug, Marvin Kessler, Marshal Miller, Ken Peterson, David Ryan

1. Treasurer's Report

Account balances presented.

Insurance—The insurance bill for FPO is less than originally projected. Most of the \$793 cost will have to come from savings.

2. FPO Director Report

Water pressure—The water pressure has dropped to the point where the toilet can no longer flush. Graham will contact Bob Logan, who works on the MVHS account, to try to determine the cause of the drop in water pressure.

Wheel replacement—replacement of wheels for the rolloff roof will take several able-bodied people. A work day will need to be scheduled before the arctic weather returns.

Tasks remaining: exterminator visit, hooks for extension cord storage

3. New Business

-- It was suggested that some of the presentations made at the general meeting be put on the website in PowerPoint format.

-- Volunteers are needed for the Heartland Park star party.

-- Graham will do the October general meeting presentation. Topic: new information on globular clusters

-- It was suggested that we do a brief presentation in November on buying telescopes. This would be dependent on getting adequate advertising.

STAR PARTY AT HEARTLAND PARK---AND A POLL : Janelle Burgardt

Graham Bell. Jan Burgardt. Dave Costales. Julee Fisher. Bill Leifer. Russ Valentine. **Is your name on this list?**

These are the names of those who have officially committed to being at Heartland Park on October 21 for the county-wide star party. ***Time is running out, and we need more members, and more telescopes, for this event!***

To give visitors a chance to see what's up there, each telescope will be used for a particular target. THAT MEANS we need a list of good sky objects easily visible on October 21. We can also use people to point out naked eye objects, particularly constellations, Mars, asterisms, etc.

The poll: *What are your favorite autumn sky objects?* Send your **favorites** via email on the website, in person to a board member, or via snail mail to the secretary (Jan Burgardt, 4407 Pennsylvania, Topeka, 66609)

AND---Can you volunteer? Can you loan your scope? Can you help develop star charts? Notify a board member **ASAP!** **Is your name on the list?**

Conventions and Star Parties by Graham Bell

A number of conventions, conferences, star parties and other significant events will be held in the next few months. Those which might be of interest to members are listed here:

FARPOINT CLUB OBSERVING

September 26-27, 2003

Lets get out and take advantage of this opportunity.

FARPOINT OPEN HOUSE

October 3-4, 2003

This is your chance to show the public what we do, and help promote astron-

omy in the area. We will concentrate on Mars again, but other objects are also fair game

Great Plains Star Party

Sept 23-28, 2003, Scopeville, KS

The 13th annual GPSP. Visit the web site at <http://www.astronomyvillage.org>. For information from registrar, contact Susan Carroll at portia@sciaastro.net. *This is going on now!*

Enchanted Skies Star Party

September 25-28, 2003, Socorro, NM

This is a well known Southwest Star Party, which holds special interest for NEKAAL. Our own Corrie Lambrecht has helped with this the past two years, and will do so again this year. Information can be found at <http://www.socorro-nm.com/starparty>. Corrie can be emailed at catherine_lambrecht@write.com

The Topeka Star Party

October 21, 2003 (rain date Oct. 28).
See Above!

FACILITIES REPORT, SEPTEMBER 2003 by Bill Leifer

- September preventive maintenance and supplies were performed on 9/19/03. Re-supply of multiple items is scheduled for 9/26/03.
- For the last few weeks, water pressure has been extremely low, rendering the toilet non-functional from inability to re-fill the tank. Graham learned that the construction crews were using the water and had turned off (mostly) the valve for the line to FPO. This courtesy was well timed to produce maximum impact during the Mars-viewing open houses, which were attended by 90 persons on one evening alone. With the help of Graham and Chuck Schmidt of USD 330, much of the pressure has been restored, at least sufficient to be "flush with success".
- Construction vehicles and/or vandals have caused major damage to our mailbox on Bodark Rd. Graham has offered to fix the mailbox.
- Multiple hooks have been placed on the wall of the telescope room for two purposes: Extension cords and other items that cause clutter and safety problems can be kept out of everyone's way and organized so that they can be found when needed. Personal belongings can be kept in a way that is identifiable, hopefully minimizing the tendency for items to be misplaced.

The smaller hooks are for hanging equipment bags (or certified NEKAAL tote bags, of course). Everyone who uses the telescope room is encouraged to place their name on a piece of tape below one of these hooks, thereby claiming ownership. If more hooks become needed, contact Bill Leifer by e-mail or via the NEKAAL YAHOO MAIL GROUP.

- It is becoming a rarity to find the roof mechanism actually working during monthly preventive maintenance, due to sheared pins. These pins are designed to shear off when resistance is encountered, thereby protecting the motor from damage. Though other factors can cause the pin to break, the most frequent cause is failure to stop the movement quickly enough as the roof reaches its limit. Pin breakage can be reduced significantly by simply slowing the rate of opening or closing of the roof as the limit is reached, and immediately turning off the motor the instant the roof is completely closed or open.
- The pin breaks if the roof is closed for more than a second or two while the motor is still running. Please do not walk away from the controller while the roof is opening or closing. It must be attended throughout. Everyone's help is requested. It is a real pain to

extract the old pin and drive in a new one.

- The red overhead lights were found on at the time of maintenance, and one was burned out, requiring replacement. Please do not leave without checking that all lights are off.
- A door hasp was installed on the shed to prevent the door from swinging open with weather changes and wind. A spring-loaded hook snap holds the hasp closed.
- Wireless internet access remains pending.
- Gary has loaded the new computer provided by Marshall with all necessary software.
- The road from Auburn normally used to drive to FPO is closed just east of Hoch Road for work on a bridge, requiring a detour. This will be necessary until at least mid-December. Detour recommendations have been posted on the mail group. One particularly convenient route, if you don't mind driving on gravel, is to take 61st street west from Auburn Rd., then go south on Hoch Rd. (gravel) until you reach the usual 89th St. west of the construction, then continue the usual route.

ARE YOU A SCIENTIST? by Russell Valentine

During an open house at Farpoint Observatory, while I was aligning my telescope to point to Mars, a boy asked me "Are you a scientist?". I replied "No, I'm a college student, or amateur astronomer". Afterwards I kept thinking about the question "Am I a scientist?". Since the third grade when ever someone asked what I wanted to be when I grew up, I told them a scientist. All this time I never really knew what a scientist really is. Is a chemist, physicist, mathematician, or computer programmer a scientist? What about an amateur astronomer?

There seems to be many definitions about what a scientist is. Websters dictionary defines it as "One learned in science; a scientific investigator; one devoted to scientific study; a savant.". Everything2.com explains it as "... word used to describe anyone who contributes to science, professional or merely an amateur" and that "their data is scrutinized by the scientific community, which is composed of other such scientists". Both of these definitions include amateur astronomers, their contribution could be through teaching of science or gathering asteroid data.

Our observations are often reported and read by others learned in science to be scrutinized.

We amateur astronomers may not be on the same level as Galileo, Feynman, or Salk, but yeah, I think we are scientists. Jacques Cousteau, a famous marine biologist once said "What is a scientist after all? It is a curious man looking through a keyhole, the keyhole of nature, trying to know what's going on". If there is anyone that feels like they are looking through a keyhole it is an amateur astronomer.

(UN)FASTEN YOUR SEATBELTS by Patrick Barry and Tony Phillips

The "fasten seatbelts" light turns off, and you get up to ask the stewardess for a pillow; it's going to be a long flight. Only a kilometer ahead in the cloudless sky, a downward draft of sheering winds looms. When the plane hits these winds, the "turbulence" will shake the cabin violently and you could be seriously hurt.

You don't know about those winds, of course, and neither does the pilot. Today's weather satellites can't see winds in clear skies: they rely on the motion of clouds to infer which way the winds are blowing.

"Believe it or not, their best indication of wind sheer right now is warnings from aircraft that have gone through it ahead of them," says Bill Smith of NASA's Langley Research Center.

But a new satellite technology being pioneered by NASA and NOAA could improve this shaky situation. It's called GIFTS, short for Geosynchronous Imaging Fourier Transform Spectrometer. GIFTS is an infra-red sensor that can detect winds in cloudless skies by watching the motions of atmospheric water vapor. Water vapor is mostly invisible to the human eye, but it reveals itself to GIFTS by the infra-red radiation it absorbs.

Smith is the lead scientist for EO-3, a satellite designed to test out this new technology. Slated for launch in 2005 or 2006, EO-3 will carry GIFTS to Earth orbit where it can produce 3-dimensional movies of winds in the atmosphere below.

These wind data will not only improve safety, but also help the airlines save money. Knowing the winds along a flight route allows airlines to adjust the plane's fuel load accordingly, thus reducing the weight that the engines

must lift. Saved fuel means saved money and less pollution.

GIFTS can help planes avoid another potentially lethal problem, too: Ice forming on their wings. If a cloud contains "supercooled" water droplets whose temperature is below freezing, those droplets will form ice on the wings of planes that pass through it. By looking at about 1700 different

appear dangerous.

Once EO-3 demonstrates the accuracy of GIFTS, airlines will be able to capitalize on this potential to make flying a cheaper and safer experience.

Learn more about the GIFTS instrument and other advanced technologies being tested on the EO-3 mission at nmp.jpl.nasa.gov/eo3. Kids can go to The



EO-3, carrying the GIFTS instrument, will be in a geosynchronous orbit for extended monitoring of large regions of our planet and enabling observation of weather patterns at higher resolution than possible with existing geostationary satellites.

frequencies of the light coming from clouds, GIFTS can measure the temperature of the cloud top and determine whether it contains water droplets that could cause aircraft icing. With information from GIFTS in hand, pilots can simply avoid clouds that

Space Place to play a data compression game related to EO-3 at spaceplace.nasa.gov/o3_compression.htm

This article was provided by the Jet Propulsion Laboratory, California Institute of Technology, under a contract with the National Aeronautics and Space Administration

Finances: Your editor goofed! Walter Cole provided a current financial statement at the board meeting, and your editor obviously lost his copy, If I don't have this back in next month's **Observer** feel free to fire the editor and replace him with an editor of your choice.

THE MANHATTAN PROJECT by Graham Bell

For the second year in a row, the Manhattan Town Center Mall had an Aerospace and Aeronautics Exhibit. Several groups, including NEKAAL, had booths set up for this exhibit.

On Saturday, September 20, Bill Leifer, Janelle Burgardt, Russell Valentine and Graham Bell were there to answer questions and show the public what we are about. Also in attendance for a while were Jason and Lisa Hill, with their rapidly growing son in tow.

Several visitors to the booth, including two from Topeka, were surprised that we existed, and expressed an interest in either joining or at least visiting Farpoint.

One of the highlights, and something which caught the attention of many was the 8-Inch Schmidt-Cassegrain telescope pointed at an 8 1/2 by 11 inch piece of paper. Without the scope, that piece of paper was just a black dot on one of the distant columns in the mall. Through the telescope, it became the image of Mars shown below. This was more interesting (and more appropriate) than the dust bunnies which the telescope revealed last year.

We had two Blue Boards (see photo below right) which describe some of the NEKAAL and Farpoint activities.



Janelle explains the NEKAAL Brochure to a couple of visitors while Russell observes.



Janelle, Graham's telescope, and the Blue Boards which were updated for this occasion.

October 2003

Sun	Mon	Tue	Wed	Thu	Fri	Sat
			1	2  1st qtr	3	4 Farpoint Roof repair.
5	6	7	8	9	10 Full Moon 	11
12 Board Meeting— Farpint 3:30 pm	13	14	15	16	17	18 Last Qtr 
19	20	21 Star Party at Heartland Park Orionid Meteor Shower	22	23 Nekaal Meeting, 7:30 pm.	24	25 New Moon 
26	27	28	29	30	31 1st Qtr 	

2003 NEKAAL MEMBERSHIP FORM

Please check appropriate membership type:

- Individual \$30
- Student \$10 for first year, \$15 each succeeding year
- Family \$35

Name:

Address:

City State: Zip:

Phone Numbers:

E-mail:

Mail form and check to NEKAAL
PO BOX 951, TOPEKA, KS 66601

FARPOINT CONTRIBUTORS

Help us improve and maintain Farpoint Observatory. A \$50 donation (membership dues not included) gets your name on a plaque on Farpoint's *Wall of Fame*.

- I am including an extra \$10 for a one year subscription to the Observer

Contributer Name:

Address:

City: State: Zip:

Name on Plaque:

- Donation is for
- Farpoint operating fund
- Telescope fund

Mail form and check to NEKAAL
PO BOX 951, TOPEKA, KS 66601

Meeting Schedule

NEKAAL meets monthly on the fourth Thursday, January through October, at Washburn's Stoffer Hall. The meetings are at 7:30 pm.

Guests are always welcome to join us for the General Meetings and/or observing at Farpoint.

October General Meeting

Thursday, October 23, 2003, 7:30 pm
Stoffer Science Hall, Room 103

Graham Bell: New Insights from Globular Clusters

Whom do you contact:

<u>Meetings, Speakers:</u>	Jerry Majers
<u>Farpoint Functions:</u>	Janelle Burgardt
<u>Farpoint Maintenance:</u>	Bill Leifer
<u>Special Presentations, Groups:</u>	Janelle Burgardt
<u>Dues, Donations, Merchandise:</u>	Walter Cole
<u>FAST:</u>	Gary Hug
<u>Web Content</u>	Janelle or Graham
<u>Observer Articles</u>	Graham Bell
<u>Other Web Issues:</u>	Russell Valentine
<u>General Questions:</u>	Any board member

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Jerry Majers	862-8869	jmajers@cox.net
Marshall Miller	862-6059	marshallmiller@cox.net
David Ryan	272-0177	dryan@cox.net
Russell Valentine	862-5046	russ@coldstonelabs.org

"The REAL MEETING" Gathering



Please join us for post-meeting eats at Perkins Restaurant, 1720 SW Wanamaker. Some members refer to this as "the real meeting" which follows our general meeting each month.

Open House Dates for 2003

Feb 7-8	7:00	July 11-12	9:30
Mar 7-8	7:30	Aug 1-2, 8-9	9:30
Apr 11-12	9:00	Sept 5-6	9:00
May 9-10	9:00	Oct 3-4	8:00
Jun 6-7	10:00	Nov 28-29	7:00

Club Observing Dates for 2003

January 3-4	June 27-28
Jan 31-Feb 1	July 25-26
Feb 28-Mar 1	Aug 29-30
March 28-29	Sept 26-27
April 4-5	Oct 24-25
May 2-3	Nov 21-22
May 30-31	Dec 19-20

Farpoint Observatory

W. Long. 96°00'08.6" Elevation = 406 m
N. Lat. 38°53'24.9" = 1320 Ft.



The NEKAAL OBSERVER

NEKAAL
PO BOX 951
TOPEKA, KS 66601

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