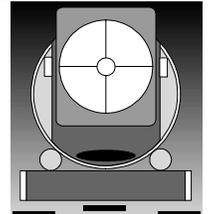


STARLITE



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**PEORIA
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Big Blue Stays with PAS

By Rich Tennis

Tim McGrath and I now share ownership of a telescope with an aperture larger than what many people consider an adequate focal length: 445 mm. This is the tale of the acquisition of a telescope affectionately called "Big Blue".

Guy Morse, a former PAS member, had a large telescope for sale. He was offering it to PAS members prior to trying to sell it on the open market. This telescope has a 17.5-inch mirror and a plywood case painted a faded and peeling blue. He wanted to get it out of his garage and more importantly, his wife wanted it out of the garage. The price was \$500. I mentioned the "buy of a lifetime" to my wife, Margo, who was not impressed.

I had been talking about getting a second telescope with the plan to get a smaller refractor that would be easy to transport. A 200-pound behemoth was going in the opposite direction. The pictures of this creature did not help, as it was at least 7 feet tall.

Tim and I decided to partner in this big telescope to split the cost and storage location. He would convince Kerri and I

would work on Margo. We met at Guy's house, smiling at all the possibilities. Getting a smile on Margo's face was the next big hurdle. I called her to tell her we were bringing it home for a test run. There was a long silence. She finally said that it had to fit in the back of the Volvo station wagon; after all hauling the telescope was why I had said I "needed" the station wagon.



That seemed easy enough...until we tried to put it in. Three attempts with three men struggling finally did get it in the wagon. The front seat was as close to the dashboard as it would go and there was no room to spare anywhere.

Since there wasn't room for Tim and the telescope in

my wagon, he followed me to our house. Since Kerri was supportive of the purchase, he came to help convince Margo that this was the "deal of the century". The bottom line was, we really wanted this beast of a telescope.

The telescope mirror and diagonal are by Coulter Optics of about 1980 vintage. We are the fourth owners of "Big Blue" and the construction is from plans of John Dobson and The San Francisco Sidewalk Astronomers. The base is made of 1" plywood and the tube is 3/4" thick and close to 7 feet tall. The 200-pound weight is supported on three, 1 1/2" diameter caster wheels. They do not roll well on grass!! Moving it is a challenge not only because of the small wheels but because it is top-heavy and tries to turn over! However, once in place, the optics has convinced us that we have an optical treasure in this historic telescope. We are glad it is staying in the Peoria area.

Tim and I have promised our wives that it will be redesigned to be more transportable, so that may be another story. Margo also wants it redesigned to be less ugly!☛

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President's Message

by Tim McGrath



Update on the NorthMoor Restoration Effort

Our quest to restore NorthMoor Observatory is gaining momentum! Recently, we hired the Kenyon Architect firm to do a thorough evaluation of the dome structure. An architect came out and spent a few hours looking over the observatory, and taking notes and pictures. Eric Clifton, Bill Cole, and I were there to answer questions about the observatory's history and future usage. The architect took all the information we had gathered, and a few weeks later, gave us his report.

The report is detailed and quite lengthy, so I will only give you a summary of it. It is their professional opinion that we replace the dome, rather than repair it. The report details many of the steps involved, and provides detailed estimates for cost and labor. The report also gives cost projections for the future, accounting for the

rapid cost inflation of steel and labor.

The bottom line:
Repair current dome by replacing sheathing and shutter:
\$71,328

Cost of a complete new dome and shutter system:
\$46,610

Total estimated cost of replacement, including labor:
\$84,134 (2004)
\$126,200 (2005)
\$147,234 (2006)
\$168,267 (2007)

Total amount raised by the PAS:
\$29,261 (Nov 2004)



You can see we have have started to make progress. The money we raised so far has come from donations by PAS members, corporate matching gifts, and the public.

The board is currently hard at work creating grant proposals. We will soon be soliciting grants from corporations, private foundations, and government science education foundations. There is a lot of work to be done, and we always need help in some way or another. We would especially appreciate the advise of someone who has experience writing grant proposals. You can contact any board member, or email me at

president@astronomical.org.

Tim ☺

*...thorough
evaluation of
the dome
structure...*

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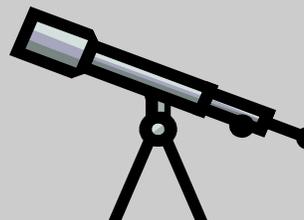
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*Minutes...**(Continued from page 7)*

Clifton, Tim Lester, Tim McGrath, Mike Shelton, Bill Cole, John Barra, DeWayne Bartels, Mike Radigan, Rich Tennis and Dan Son.

Treasurer's Report: (Mike Shelton)

Mike presented the Treasurer's report (copies attached) for the month of July. Dan Son made a motion to accept the report, 2nd by Rich Tennis. Motion passed.

Committee Reports

Light Pollution: (Rich Tennis) Bruce Brown has announced he is running for mayor of the city of Peoria. Bruce is a former PAS member and supports light control.

The vendor has been out at Wildlife Prairie Park and progress is slow but will be continuing.

NorthMoor Observatory: (Bill Cole)

We have 3 new keyholders: Tim McGrath, Mike Radigan and DeWayne Bartel.

Observing Club: (John Barra) Working on a star hopping marathon idea, stand back folks this is going to be fun!

Winery Star Party on October 16th, lunar eclipse on October 27th.

Program: (Dan Son)
October movie

November Show & Tell

Dec tba

Jan tba

Feb Gene Hodel Jeopardy

March tba

Membership: (Scott Swords) We have 4 new members: Thomas Wieser, Floyd Reathorford, Daniel Long and Sean Lance.

Website: (Mike Radigan) Mike has access and will be working the site.

Old Business:
Grant proposal?
PAS Internal Audit-deadline will be the October Board meeting.

New Business:
Northmoor inspection by Kenyon architect.

Mike Hay made motion to adjourn, 2nd by Rich Tennis. Motion

passed.

Date: October 20, 2004

Attendees: Calene Fleming, Mike Hay, John Barra, Scott Swords, Eric Clifton, Tim McGrath, Mike Radigan, Bill Cole, Rich Tennis and Dan Son.

Committee Reports

Education: (Nerio Calgaro) Don Hill was in the Journal Star about his classes at Northmoor thru the Park district.

Jubilee Observatory: (Tim McGrath)

Little progress on the 14 inch dome.

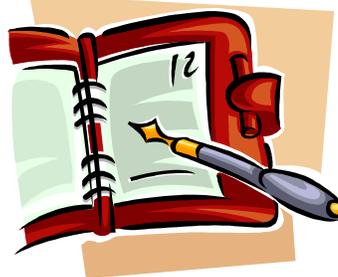
Light Pollution: (Rich Tennis) Rich Tennis was asked for help with Parsons outdoor lighting as they rebuild their building

NorthMoor Observatory: (Bill Cole)

Bill has submitted the questions for next year Science Treasure Hunt.

The Journal Star had a nice article about the Observatory.

Northmoor will be open for the Lunar Eclipse if weather permits



NorthMoor Restoration: (Tim Lester)

Tim Lester has accepted the position as chairman. Thanks Tim.

Kenyan & Associates recommendation was to replace the dome

Observing Club: (John Barra)

Jeff Pittenger & John Barra stayed out till 3am at the Winery Star Party.

Star hopping marathon is 99% finished and will do a December program on it.

Program: (Dan Son)

November – Show & Tell

December - John Barra Marathon Star Hop

January – tba

February – Gene Hodel Jeopardy

March - Jared Gross Cassini Project

April - Illinois Dept of Transportation

Starlite: (Jeff Pittenger)

Deadline for Starlite will be November board meeting.

Will be looking at ways to reduce costs in the future.

Eric made a motion to thank Calene Fleming & Jessica Frasca with a card of thanks, 2nd by Rich Tennis. Motion passed.

Website: (Mike Radigan)

Site looks good and the links are back!

Old Business:

Tom Hintz the Jubilee Site Superintendent sent PAS a thank you letter for our help in August at the Prairie Open House (copy attached).

PAS Audit for 2003 is done.

Kelly Lester is rewriting the grant proposal. The proposal will have better pictures and more detailed information.

Motion made by John Barra to accept the logo submitted by Tim McGrath, 2nd by Rich Tennis. Motion passed.☺

*Monthly Program Schedule*

Unless otherwise noted, meetings will be held in the Lakeview Museum Planetarium, with all programs beginning at 7:30 p.m.

January 5, 2004
tba

February 2, 2004
Gene Hodel = Astro Jeopardy

March 2, 2004
Jared Gross = Cassini Project

April 6, 2004
IDOT = lighting

Of Starlites Past

by John Barra

40 YEARS AGO December Newsletter 1964

“As we start the year 1965, a dark cloud hangs over us. The loss of Don Jackson is still vivid in our minds and shall be for along time to come. This is a loss that in no way can be recovered. We shall continue in our tradition, and some year another lad will be with us that shows the promise of a Don Jackson.”

I now how they must have felt having lost Barry Redenbo and Sam Decker in the last few years, just to name a few, I am hoping that “lad” (or lass) steps up to fill the tradition. It does always seem to happen.

“We have several new committee chairmen this year--Ken Dickens, Public Nights; Bernice Grebner, Editor Newsletter; Arthur Grebner, Special Events; Betty Ohl, Membership; Les Bodell, Properties. As of this writing we are still looking for a chairman of Publicity. Any volunteers?”

As of this writing, we are still looking for a secretary. Any volunteers? Or if unknown to me at the time of this writing we have had a volunteer, we are always looking for members who are not on the board to be future board members or committee chairpersons. If interested, let any board member know.



25 YEARS AGO December Starlite 1978

“NorthMoor Observatory will be 25 years old July 23, 1980. For its 25th birthday, the telescope will have a fresh coat of bright red paint thanks to John Wellwood.”

That must mean on July 23, 2005, the NorthMoor Observatory will celebrate its 50th anniversary. I don't know if we are to repainting it again (although gold might be appropriate), we are planning a golden anniversary year. Anyone with ideas on how we should celebrate please let a board member know of your ideas.

“We try to have some program, for each of our meetings, which will interest you. I would like to hear what subjects you would like programs based on.”

Ditto 25 years later. Let the program chairman (Dan Son as of now) know of any ideas you may have for a program. Better yet, if you are not afraid to stand up in front of audience, why not volunteer to present a program. We are always looking for fresh ideas.



Astronomical Calendar

December 7
Jupiter occulted by moon

December 11
New Moon

December 13-14
Geminid meteor shower

December 15
PAS Board Meeting, 7:30 p.m.
Northpoint Shopping Center Hardees

December 18
First Quarter Moon

December 21
Winter Solstice

December 22
Ursid Meteor Shower

December 25
Christmas

December 26
Full Moon

December 2004						
S	M	T	W	T	F	S
			1	2	3	4
5	6	7	8	9	10	11
12	13	14	15	16	17	18
19	20	21	22	23	24	25
26	27	28	29	30	31	

January 2005						
S	M	T	W	T	F	S
						1
2	3	4	5	6	7	8
9	10	11	12	13	14	15
16	17	18	19	20	21	22
23/30	24/31	25	26	27	28	29

February 2005						
S	M	T	W	T	F	S
		1	2	3	4	5
6	7	8	9	10	11	12
13	14	15	16	17	18	19
20	21	22	23	24	25	26
27	28					

January 1
New Year's Day
Earth at Perihelion

January 3
Last Quarter Moon
Quadrantid Meteor Shower

January 5
PAS Members Meeting, 7:30 p.m.
Lakeview Planetarium

January 10
New Moon

January 13
Saturn is at opposition

January 17
First Quarter Moon

January 19
PAS Board Meeting, 7:30 p.m.

Northpoint Shopping Center Hardees
First Quarter Moon

January 25
Full Moon

February 2
PAS Members Meeting, 7:30 p.m.
Lakeview Planetarium
Last Quarter Moon

February 8
New Moon

February 15
First Quarter Moon

February 16
PAS Board Meeting, 7:30 p.m.
Northpoint Shopping Center Hardees

February 23
Full Moon



The Bulletin Board

PAS Officer Changes

There have been some changes in the officer positions since the election in September.

Dan Son has taken over the office of Treasurer for Brandt Bechtold.

DeWayne Bartels has taken over the duties of Secretary for Dan Son.

Tim Lester has assumed the responsibility of Northmoor Restoration Committee Chairman.

Thank you and congratulations to all of you.



NEW PAS Logo

The board has voted to approve a new logo for the PAS. Look for it in the next Starlite



New Members

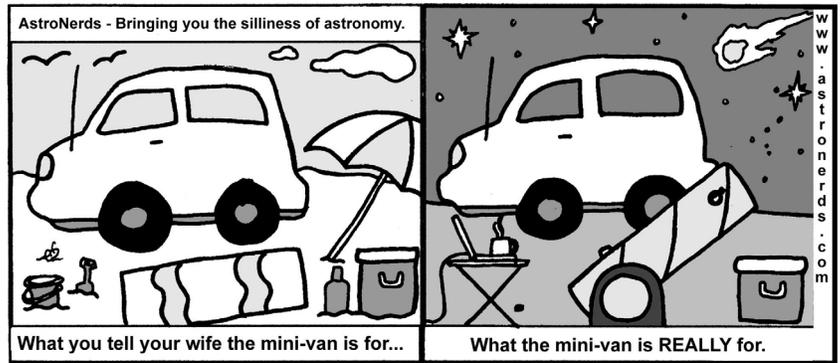
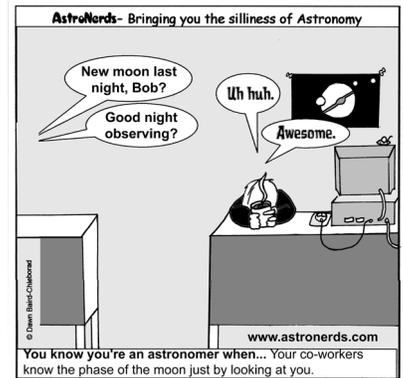
The Peoria Astronomical Society welcomes the following new members:

Thomas Wieser
 Floyd Reathorford
 Daniel Long
 Sean Lance



Astro-Comics

Used with permission



Observing...

(Continued from page 8)

The best way to ensure that you will be able to see the exact moment of the reappearance; you need a telescope that tracks. Jupiter moves less than an arc minute in both right ascension and declination during the entire occultation. Therefore if you have Jupiter centered in your tracking scope prior to disappearance, it and its moons should remain in the eyepiece at reappearance, even using high power.

An attempt will be made at Northmoor to videotape these events. However, you can see these events at home in your backyard in the city if the skies are clear, you have an unobstructed horizon and you are willing to get up at 2:00 am.

Don't Miss Geminid
 Meteors On December 13/14

The best meteor shower of the year will occur, weather permitting, just a day after new moon. The Geminid meteor shower will peak the evening of Monday, December 13 and the early morning hours of Tuesday, December 14.

The Geminids have been fairly consistent over the years with an average of 60 to 75 meteors observable per hour during the peak of the shower. If you are at a dark site, which is necessary to see the fainter meteors, one can begin observing shortly after nightfall. Gemini rises on this date around 6 pm. However, more meteors are observed the higher the radiant. The most can be observed between 10 pm. and 2 am.

Assuming clear skies and decent weather, you can expect a good crowd at Jubilee for this event. Wear warm clothes and bring a comfortable chair. A

lounge chair that folds back works the best. Experienced winter observers will bring a sleeping bag.

I would suggest bringing snacks and something to drink if you come to our Jubilee site.

Coffee or hot chocolate works good. We will have an electric heater in the warm-up room.

I will be at Jubilee, assuming clear skies, around 7 pm. If you do come to Jubilee, don't forget to put on your parking lights as you come up the hill. Meteor observers tend to get angry at bright headlights ruining their night vision.

You do not have to be at an observatory to view a meteor shower. Meteor observing is strictly a naked-eye event. But find a dark site with as few obstructions as possible. The more the sky and the darker the sky you can see, the more meteors you will observe. Also, if Monday is predicted to have cloudy skies, you can see a good number of Geminids the day before and the day after the peak.

Can You Spot This?

NGC 1647

by John Barra

Can You Spot This? *premiered in Starlite Issue #144, December 2000.*

NGC 1647, an open cluster in the constellation Taurus, is an easy find for even beginners. Yet, it is an interesting object that has been missed (or ignored) by more experienced amateur astronomers.

On a very clear night at a dark site with good seeing, you can see a hint of this cluster with the naked eye. It is especially easy to find with binoculars--which should be used when first trying to locate it.

Start by finding the bright star Aldeberan in Taurus. Note a six or seven naked eye V-pattern or asterism with Aldeberan comprising one tip of the V. (See Chart 1). With binoculars you will note many other

stars in this pattern. You will actually be looking at a very large open cluster called the Hyades. It is actually $5\frac{1}{2}$ degrees in size.



With this pattern in your binoculars, move from the two stars that form the tops of the V (one being Aldeberan) in the opposite direction and approximately the same distance from the star that is at the bottom of the V. You should note a medium-size glow that forms this open

cluster.

Put a low-power eyepiece in your telescope. Starhopping is unnecessary to find this cluster. Aim your telrad or other finder at this same approximate spot explained above and shown on the chart. NGC 1647 should be in your eyepiece. Or move your scope slightly in different directions until you see it. Increase power as necessary to see more stars and star patterns.

This open cluster is not very compact. However, with higher power you should notice numerous pairs or triplets of stars. You should even be able to see a nice chain of stars. There is a wide range of magnitudes of stars in this cluster, although many are between magnitude 10 and 12. Its size is about three-quarters of a degree making it easy to find.

After spending time looking at this cluster with the telescope, move back to the Hyades with your scope at low power. Follow the V-pattern with it and notice the many bright stars in this cluster.

OBJECT STATISTICS

Name: NGC 1647
 Type: Open Cluster
 Magnitude: 6.4
 Size: 45'
 Coordinates:
 04 hr., 46.0 min.;
 +19°, 4.0 min. ☾

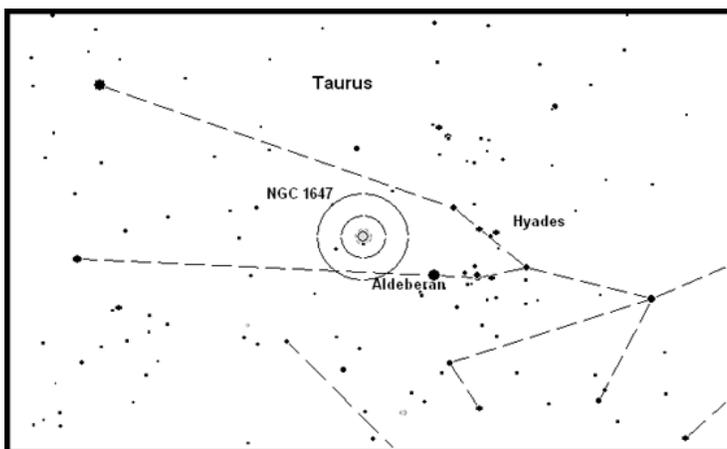


Chart 1 Naked-Eye

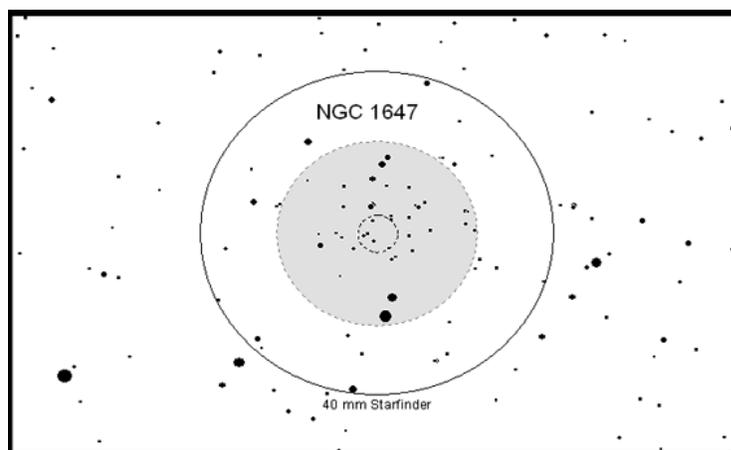
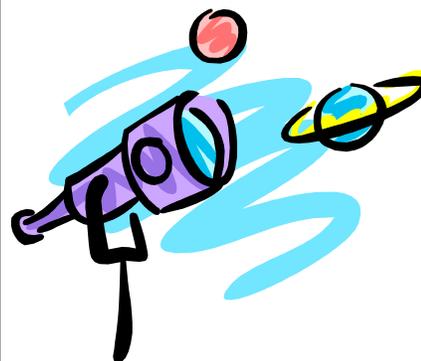


Chart 2 Telescopic View

*...very large
open
cluster...*





Minutes of the

Board of Directors

by Dan Son, PAS Secretary

Board meetings take place on the third Wednesday of the month. Those referenced below were held at the Hardee's of Willow Knolls Court in Peoria. Future PAS Board meetings will be held at the Hardee's of Northpoint Shopping Center in Peoria. Meetings start at 7:30 p.m.

Date: July 21, 2004

Attendees: Mike Hay, John Barra, Scott Hay, Eric Clifton, Tim Lester, Tim McGrath, Mike Shelton, Bill Cole, Nerio Calgaro, Rich Tennis, Mike Radigan, Jubilee Superintendent Tom Hintz and Dan Son.

Treasurer's Report: (Mike Shelton)
Mike presented the Treasurer's report (copies attached) for the month of May. Dan Son made a motion to accept the report, 2nd by Scott Hay. Motion passed.

Rich Tennis made a motion to discontinue service of the phone at the Jubilee site, 2nd by Dan Son. Motion passed.

Committee Reports

Education: (Scott Hay)

Insert Text here

Jubilee Observatory: (Eric Clifton)

ICC class was a success on Saturday night.

Light Pollution: (Rich Tennis)
Hope by September to get things going at Wildlife Prairie Park. Working on finalizing cost's, architecture and lighting issues.

Nominating: (Dan Son)
Finished waiting for August board meeting.

NorthMoor Observatory: (Bill Cole)
We are running about ½ clouds and ½ clear with nice crowds on the clear nights.

NorthMoor Restoration: (Scott Hay)
Not much is going on. We should start mailing reports to non-member contributors to tell them what is going on. Will try by September to have audit done.

Observing Club: (John Barra)
This past Friday night we had 3 people do the mini-marathon. Perseid meteor shower will be best from Wed. August 11th thru Thur. morning August 12th.

Program: (Dan Son)
August – Mike Frasca on Brain Storming
September will be Chuck Collins on Weather

Starlite: (Jeff Pittenger)
Deadline for Starlite will be August board meeting. We will try to get a hold of Jeff to see if he needs help.

New Business:
October 16th is Winery Star Party. Tim Lester made motion to adjourn, 2nd by Rich Tennis. Motion passed.



Date: August 18, 2004

Attendees: Calene Fleming, Mike Hay, John Barra, Scott Hay, Scott Swords, Eric Clifton, Tim McGrath, Bill Cole, Mike Radigan, Jeff Pittenger, Rich Tennis and Dan Son

Committee Reports

Jubilee Observatory: (Tim McGrath)
The sweeper has been put together and we should start using it when we mow. When you are done mowing, raise the deck and attach the sweeper. Clean up the cut grass and dump it in the woods on the west side of the property

Light Pollution: (Rich Tennis)
Not much is happening, slow is

good!

Nominating: (Dan Son)
Dan Son made a motion to accept the following persons for described office:

President- Tim McGrath
Secretary- Dan Son
Vice- President- John Barra
Nomination- Dewayne Bartels
Treasurer- Brandt Bechtold
Legal Agent – Mike Hay
Parliamentarian – Mike Hay
Motion passed.

NorthMoor Observatory: (Bill Cole)

We are having clearer nights and the people are showing up.

NorthMoor Restoration: (Scott Hay)

Scott Hay has given his resignation as chair of this committee. We sadly have accepted this and are looking for someone to fill this position.

Observing Club: (John Barra)
The Perseids was clouded out in many areas this year. Clear Sky has been way off on its predictions on some evenings.

October 16th is the Winery star party.

Program: (Dan Son)
September- Chuck Collins with Weather

October –TBA

November- Show & Tell

Starlite: (Jeff Pittenger)
Deadline for Starlite is this board meeting. The board had a lengthy discussion on reducing cost of the Starlite.

Old Business:
Audit is still unfinished.

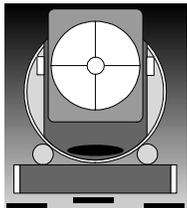
New Business:
Kellie Lester is touching up the grant proposal to make it look better.

Eric Clifton made a motion to pay \$640 to Kenyon & Associates (letter attached) to make a survey & report back to the Society, 2nd by Rich Tennis. Motion passed.

Date: September 15, 2004

Attendees: Calene Fleming, Mike Hay, Scott Swords, Eric

(Continued on page 3)



Astronomy Section Newsletter
 Peoria Academy of Science
 c/o Princen
 677 E. High Point Terrace
 Peoria, IL 61614

#159, December 2004

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In This Issue...

Big Blue, Can You Spot This? Can You Spot This, Observing Notes, and more....

Observing Club Notes

Moon to Occult Jupiter
 On December 7

A rare event will occur on the early morning hours of Tuesday, December 7 that can be viewed by beginners as well as expert astronomers. You can see it with the naked eye and binoculars. However, using a telescope will provide the most dramatic views.

The crescent moon, which will be about 5 days prior to new moon, will occult the bright planet Jupiter. The disappearance of Jupiter behind the bright side of the moon is listed in astronomy magazines to occur at 2:50 am. CST for Chicagoans. Reappearance from the dark side of the moon is estimated to occur at 3:54 am, approximately

by *John Barra*

an hour later. My calculations using TheSky software indicate that the disappearance and reappearance should occur in Peoria within a minute of those times.

Jupiter should be about 10 degrees above the east-to-east/southeast horizon for the disappearance and it should be about 20 degrees above the east/southeast horizon for the reappearance. However if you wish to view this event, make sure you have a clear horizon in that direction.

Three of the four Galilean moons of Jupiter will be visible and thus also occulted during this event. A telescope will be needed to view the occultations of Jupiter's moons. Because of the brightness of our moon's limb at disappearance, it may be difficult to see the Galilean moons. However, occultation of those moons

should be spectacular at reappearance on the dark side.

It will not be observable at any time because it will be behind or in occultation by Jupiter during the entire time of these events. Unfortunately, there will be no eclipses or transit shadows by the Galilean moons during this time period. The Great Red Spot is also scheduled to be on the backside of Jupiter the entire time.

Disappearance should occur here approximately at the midpoint of the bright crescent portion of the moon in Peoria. Since Jupiter will be visible prior to being occulted, finding it then will be easy. Finding the planet and its moons when they reappear will be more difficult, even though Jupiter will reappear from the dark side at approximately the same midpoint.

(Continued on page 5)

...a rare event ...