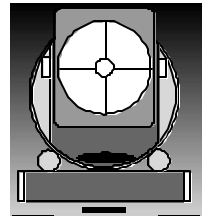


# STARLITE



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P.O. Box 10111  
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Member of the  
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of Sciences  
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Astronomical  
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Scott Hay

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Dan Son

Treasurer  
Mike Shelton

Legal Agent  
Mike Hay

Parliamentarian  
Mike Hay

Nominating  
Chairman  
Steve Russell

## Leonids Great — For a Short While!

by John Barra

Those PAS members who stayed all night at Jubilee during the Leonid Meteor Shower the morning of November 18, 2001, went home realizing how close they came to being able to see a bonafide meteor storm. However, for a short while, the Leonids were spectacular.

Those who came early on the evening of the 17<sup>th</sup> did have occasional openings in the cloudy sky and were able to do some observing with their telescopes. Meteor watchers

were able to see only a few early Leonids. By midnight, the sky was completely cloudy. While everyone could tell that the clouds were very thin, with sporadic glimpses of Jupiter, Saturn, Capella, and Aldebaran through them, very few Leonids could be seen prior to 3:00 a.m.

However, the eight PAS

members who decided to stick it out the entire evening with the hope that the sky would open up were not disappointed. Suddenly, a good portion of the sky became cloudless.

Between 3:10 a.m. and 3:40 a.m., about 50 Leonid meteors were observed. The sky was mostly clear from



Regulus to the western horizon, while it was too cloudy below Regulus to view any meteors traveling in the opposite direction. With about half the sky observable, these totals converted to a figure of above 200 meteors per hour during this time period.

The sky closed just as fast as it opened up and suddenly no stars, planets, or meteors were observable during the start of the predicted peak at

(Continued on page 3)

## Banquet Weather Beautiful for Fourth Straight Year

by Michael Frasca

The Peoria Astronomical Society should consider scheduling their Annual Banquet for the date of a major astronomical event such as an eclipse, occultation, or meteor shower. Once again, the September 29, 2001, date chosen for the potluck picnic at Jubilee State Park featured superb weather (see photos on page five).

As always, the Society provided the baked ham and fried chicken and members brought a dish to share.

During the short after-dinner business meeting, the following slate of officers was elected by unanimous voice vote:

President: Steve Wrigley  
Vice-President: Scott Hay  
Secretary: Dan Son  
Treasurer: Mike Shelton  
Legal Agent and Parliamentarian: Mike Hay  
Nominating Chairman: Steve Russell y

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# Wrigley's Wramblings

by Steve Wrigley



It is comforting to know that the Society has such a diverse and able membership that comes together and fills in where needed to keep the system working.

Members of the Board of Directors, and all who have participated at the various star parties. Several events and special star parties have occurred while I have been hospitalized and recuperating. Many members have volunteered to help with these public events. It is a fitting testament to how strong our Society is, that so many are

willing and able to keep volunteering their time and are eager to help the public understand the wonders in the night sky.

*...It is a fitting testament to... our Society... that so many are willing and able to keep volunteering their time...*

# Thank You!

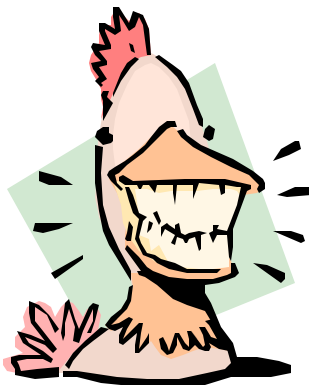
eee

I thank you all for

making our Peoria Astronomical Society what it is today: A strong and continuing asset to the community in the science of astronomy. y

eee

As many of you know, I have been through a medical ordeal that has prevented me from performing my duties as president of the Society. Since the end of September, Scott Hay has stepped up to assume the leadership role in admirable fashion. I thank him, the mem-



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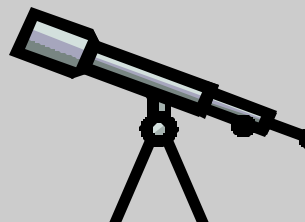
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Visit our site on the World Wide Web at <<http://www.astronomical.org>>





## Minutes of the Board of Directors

by Dan Son

*Board meetings are held on the third Wednesday of the month at the Hardee's of Willow Knolls Court in Peoria. Meetings start at 7:30 p.m.*

### September 19, 2001

**Treasurer's Report:** (Calene Fleming) Calene presented the Treasurer's report for the month of August. We received \$66 in donations from NorthMoor. A big thanks to Calene for doing the printing of the *Starlite* and the Treasurer's job.

**CCD:** (Eric Clifton) A motion was made to have Tim McGrath and Stephen Russell co-chair this department; seconded by Mike Shelton. Motion passed.

**Education:** (Scott Hay) Don Hill's Park District classes start Sunday, September 23<sup>rd</sup>. Scott Hay has two classes beginning again and lasting five weeks. They start Saturday, September 29<sup>th</sup>, from 1:00 p.m. to 2:00 p.m., and Monday, October 1<sup>st</sup>, from 7:00 p.m. to 8:00 p.m.

**Jubilee Observatory:** (Eric Clifton) ICC class is coming out on October 5<sup>th</sup>. Bradley class is coming out September 24<sup>th</sup>. We have a busy September 21<sup>st</sup>. A Cub Scout group and a father-son church group are on for this night. The electrical pole is fixed. The shutter motor was repaired, thanks to everyone!

**Light Pollution:** (Rich Tennis) The *Journal Star* ran a light pollution article on September 18, 2001. Rich will be talking to CILCO at an Illinois Commerce Commission. The group will be giving a talk at the Forest Park Nature Center on October 13<sup>th</sup>.

**NorthMoor Observatory:** (Steve Wrigley) We've had some great crowds out.

**Public Relations:** We had a *Journal Star* article on September 18<sup>th</sup>, and a *Times-Observer* article on September 12<sup>th</sup>.

**<www.astronomical.org>:** (Tim McGrath) Tim has not been able to update the web pages since the web site has moved. He'll try to contact Don Ware to gain access.

### October 17, 2001

**Treasurer's Report:** (Mike Shelton) Mike presented the Treasurer's report for the month of September.

**CCD:** (Stephen Russell and Tim McGrath) A motion was made to allow Stephen to purchase some new cables for the CCD, which mice had chewed on; seconded by Tim Lester. Motion passed.

**Education:** (Scott Hay) Pioneer Girls were out at NorthMoor on October 17<sup>th</sup>. Bill Cole and Carol Wrigley were doing a presentation for them.

**Jubilee Observatory:** (Eric Clifton) There have been a lot of people out lately, 40 from ICC, 20 from Bradley, and 80 on the Cub Scout/church group night. We have had some vandalism reported. Eric and Tim came out to find all outside lights shot out by a BB gun. The vandals also placed bottles around and shot them up, glass was all over. Thanks for cleaning it up! We'll be having two Boy Scout troops out on October 18<sup>th</sup>.

**14-Inch:** (Mike Shelton) The scope works well after synching on a few objects now. The dew zapper cord needs repaired.

**Light Pollution:** (Rich Tennis) Rich talked with the Illinois Commerce Commission and has some needed information to take back to the City of Peoria. Rich has not heard back from Neal Johnson at CILCO about a \$4000 grant proposal.

**Observing Club:** (John Barra) The October 13<sup>th</sup> Messier Marathon was rained out. Will wait for 2002!

**Program:** (Dan Son) Eric made a motion to elect Dan Son as chairman; seconded by someone in the back. After much gagging and coughing the motion passed. November – Stephen Russell Star Parties; December – Show & Tell...bring in anything you would like to share with the group – a new eyepiece, posters...telescope!!!; January – Movie Nite; February – Gene Hodel presents Astro Bowl; March – Eric Clifton presents Astrophotography for the beginner; April – Stephen Russell

CCD Photography.

**Public Relations:** Discussed using extra *Starlite* copies to give to local businesses and possible new members at Program meetings.

**Membership:** (Scott Swords) Eric made a motion to have new members' names, addresses, and phone numbers in the Treasurer's report; seconded by Rich Tennis. Motion passed. Will start at the beginning of each members meeting to ask for new people in the audience, try to talk to them after the meeting.

**<www.astronomical.org>:** (Tim McGrath) Tim is still not able to get into the web site. He has made contact with Don Ware and is working on this.

=====  
**The Board meeting scheduled for**

## Leonids...

*(Continued from page 1)*

4:00 a.m. Around 4:20 a.m., the clouds disappeared in a small area of the sky between Jupiter, Orion, and Capella — about 15% of the sky. This opening lasted for only ten minutes, but ten Leonids were observed in this period. Those numbers would extrapolate to a rate of 400 to 600 per hour.

It too closed quickly. A short time later, when only Jupiter, Castor, and Pollux could barely be seen for a few seconds, two bright Leonids were quickly seen. Finally, about a minute later with the clouds totally engulfing the sky, a meteor of a magnitude of -8 or brighter suddenly was seen traveling at the bottom of the clouds. The last half-hour or so, nothing was seen but clouds.

During the brief periods open for observation, most of the meteors were bright. Very few faint ones were observed. And when part of the sky was cloudless, observers noticed sudden flashes in areas that contained clouds.

While everyone who left was disappointed that the entire evening was not cloud-free, we all felt that somewhere east of Peoria had been clearer and observers must have seen quite a show. But even with that disappointment, we all commented that this short period of observations probably provided the best meteor viewing any of us had seen before. y



## Monthly Program Schedule

*Meetings will be held in the Lakeview Museum Planetarium. Unless otherwise noted, all programs begin at 7:30 p.m.*

**December 5, 2001**  
**Show & Tell**

**January 2, 2002**  
**Movie Nite**

**February 6, 2002**  
**Astro Bowl**  
**Gene Hodel**

**March 6, 2002**  
**Astrophotography**  
**for the Beginner**  
**Eric Clifton**

**April 3, 2002**  
**CCD Photography**  
**Stephen Russell**

# Of Starlites Past

by John Barra

# ABCDEFABCDEF

## 40 YEARS AGO Winter Newsletter 1961/62

“An outstanding Christmas card was designed by Richard and Donald Hill. The pictures of the observatory building, our president and of Mrs. Patterson looking through the telescope are marvelous. This is one we will wish to keep.”

*Wow! Don Hill was making Christmas cards 40 years ago — a long, long time before personal computers. I wonder, was the Gutenberg press invented by then? At any rate, it is a nice tradition Don has kept going for such a long time and we all appreciate getting them each year.*

“A mobile observing service will be made available to those in hospitals and other institutions who would like to look through a telescope and learn more about astronomy but are not able to visit the observatory.”

*I bet our president, Steve Wrigley, wished that service was still available last month when he was in the hospital. Hey Steve, I bet that would have been better than counting the holes in the ceiling tiles. But it is nice to see you back in action with the club. y*

## 25 YEARS AGO December Starlite 1976

“We had a setback several weeks ago when the 14-inch reflector tipped over as it was being pulled over a ramp between the storage room and observing area. Fortunately, neither the precious mirror (it was insured) nor any of the other optics were damaged.”

*Well, with all our maintenance problems lately at NorthMoor, at least the telescope never tipped over. But what a thought. Is the dome insured? Could it accidentally tip over leaving the telescope standing? I guess I should not wish too much. A little wind and it just might tip over!*

“Although the Messier Club has completed its stargazing for the season and has gone into hibernation, they are looking forward to renewed nebula hunting in April.”

*We too shall go into hibernation for the winter. However, I do believe there are some brave souls hoping for some clear and not too cold Moonless winter nights with no snow and ice on the ground, hoping to make it out to Jubilee and see some of the spectacular sights. Watch your e-mail. y*

## Astronomical Calendar

December 3

Saturn at opposition

December 5

PAS Members Meeting, 7:30 p.m.

Lakeview Planetarium

Show & Tell; bring in anything you would like to share with the group

December 7

Last-quarter Moon

Earliest sunset

December 14

New Moon

Geminid meteor shower

Annular eclipse of the sun, about 25% for Peoria at sunset

December 19

PAS Board Meeting, 7:30 p.m.

Willow Knolls Court Hardee's

December 21

Winter Solstice at 1:20 p.m. CST

December 22

First-quarter Moon

December 28

Occultation of Saturn by the Moon

December 2001						
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

December 30

Full Moon

Penumbral eclipse of the Moon

January 2

PAS Members Meeting, 7:30 p.m.

Lakeview Planetarium

Movie Nite

Earth at perihelion

January 4

Latest sunrise

January 6

Last-quarter Moon

January 13

New Moon

January 20

First-quarter Moon

January 16

PAS Board Meeting, 7:30 p.m.

Willow Knolls Court Hardee's

January 2002						
S	M	T	W	T	F	S
	1	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 28

Full Moon

February 6

PAS Members Meeting, 7:30 p.m.

Lakeview Planetarium

Astro Bowl presented by Gene Hodel

February 4

Last-quarter Moon

February 11

New Moon

February 19

First-quarter Moon

February 20

PAS Board Meeting, 7:30 p.m.

Willow Knolls Court Hardee's

Starlite Deadline

February 26

Full Moon

February 2002						
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		





# The Bulletin Board

## New Member

Welcome to:  
Calvin Patterson



## Extra! Extra!

The Peoria Astronomical Society enjoyed another 15 minutes of fame this September. Three newspaper articles split that fame into five-minute increments.

The September 12, 2001, issue of the *Peoria Times-Observer* contained an article on NorthMoor

Observatory, featuring interviews and a flattering photo spread of PAS president Steve Wrigley and vice-president Scott Hay.

On September 18<sup>th</sup>, Peoria's *Journal Star* carried an article on light pollution, interviewing PAS member and dark sky activist Rich Tennis.

The *Journal Star* followed up with a September 25<sup>th</sup> feature on purchasing a telescope. Those quoted in the paper included PAS member and Lakeview Museum director of science Sheldon Shafer, and PAS president Steve Wrigley. A

sidebar to the article encouraged readers to seek information and advice from the PAS should they be interested in buying a telescope.



## Observatory for Sale

Approximately 12'-square observatory building with a 10-foot diameter Technical Innovations "ProDome." Electrically operated shutter, carpeted, insulated, Anderson Windows, wired for 220v, w/ 15000 BTU heater. Get it all for just \$5000. For a description of the dome, see <[www.homedome.com](http://www.homedome.com)>. For more information about the whole works, call Rod Keyes at 263-7431.

## 2001 Banquet Scrapbook

*Photos courtesy of Stephen E. Russell except as noted*



*Hey, you weigh less than the scope!*



*She can't believe he ate the whole thing....  
Photo by Michael Frasca*



*My scope is bigger than your scope....*



*"Now if we knock out these hills, we'll get a great view of Scorpio...."*



*Telescope and the Three Goldilockses*



*Digging In  
Photo by Michael Frasca*



*Tastes just like chicken, Mom!  
Photo by Michael Frasca*



*The eyepiece is connected to the, focuser, the focuser's connected to the, telescope tube....*

## Can You Spot This?

### NGC 457, the ET Cluster

by John Barra

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

One of the brightest non-Messier open clusters is NGC 457 in Cassiopeia. It is also one of the clusters that most resembles its commonly used name, the ET or Extraterrestrial Cluster. It is easy to find and easy to recognize.

First locate the constellation Cassiopeia. As shown in *Chart 1* at lower power, spot the bright star Delta in the constellation's well-known W shape. Just below it is the bright star Phi. Place your finder or Telrad on Phi and look into your low power eyepiece.

Phi stands out as a bright star. Near it is another star that is a magnitude or two lower. These two stars are quickly recognizable as the eyes of ET. As you pan your eyes around with the eyepiece, you should be able to quickly recognize the stick figure that gives it its name. Refer to *Chart 2* to see the pattern.

The first time I observed NGC 457, I had never heard of its name. However, I instantly thought of ET. Others have referred to it as the Owl Cluster, also because of its two bright eyes. I have also heard others say it reminds them of an airplane with two bright lights. When you see it, let us know what it reminds you of.

Increase the power and notice the beauty of Phi and its companion. With higher power, it is fun to follow the lines of stars that comprise its torso, arms, and legs.

NGC 457 is a rich open cluster with at least 50 stars in a relatively small area. If you are good at noticing the colors of stars, you should be able to find stars of at least three or four different hues.

*...These two stars are quickly recognizable as the eyes of ET....*

#### OBJECT STATISTICS:

Name: NGC 457 — ET Cluster

Type: Open Cluster

Magnitude: 6.4

Size: 13'

Coordinates: 1 hr. 19 min. 6 sec;  
+58 deg. 20 min. 0 sec. y

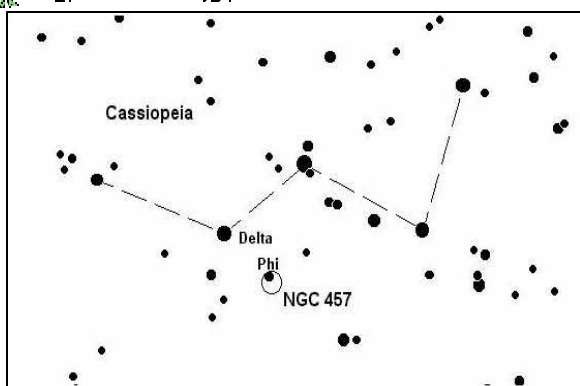
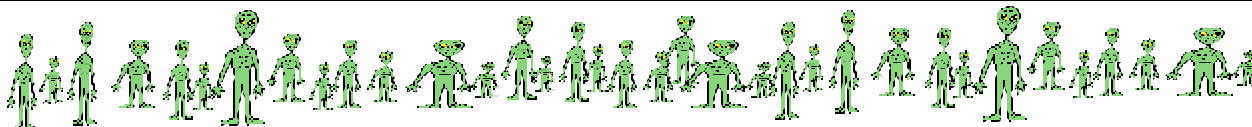


Chart 1: Low Power

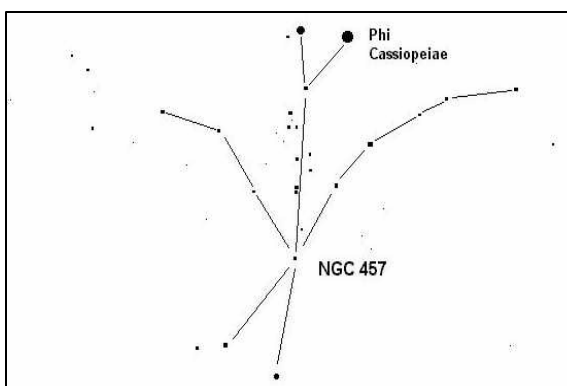


Chart 2: High Power

## PeoriaAstro@yahoogroups.com

compiled by Michael Frasca

Here are some highlights from the Peoria Astronomical Society's e-mail group. If you are an active member of the PAS and would like to subscribe to PeoriaAstro, send an e-mail message to Michael Frasca <frasca@uic.edu> with the following information: name, snail-mail address, and email address. You will be added to the group.

From: Stephen Russell <sjruss55@dpc.net>

Date: Sat, 18 Aug 2001

Subject: Light Pollution Article

Here is a link to a light pollution article that CNN had along with a few related sites FYI.

<<http://www.cnn.com/2001/TECH/space/08/14/light.pollution/index.html>>

@ @ @

William Cole <wmrcole@home.com>

Date: Mon, 20 Aug 2001

Subject: ISS/Discovery

Last Sunday evening the ISS/Discovery was magnificent. The passage was about 5 minutes later than the published time. The three orbit plot shown on NASA's website (orbital tracking) was misleading by showing that the pass I saw would be going over about the middle of lake Michigan instead of the 15° SW of directly overhead. I was attending the Peoria Municipal Band concert at Glen Oak Park when the ISS/Discovery passed over. I had told the band director of the flyby and he informed the attendees of the sight they might be able to observe. The behind advertised schedule was embarrassing but the actual viewing did happen to occur between concert numbers. The viewing of the ISS was the best

(Continued on page 7)

## PeoriaAstro...

(Continued from page 6)

I had ever seen (magnitude of -0.5) and passing nearly directly overhead.

@ @ @

From: Dan Son <sunshine92@home.com>

Date: Thu, 23 Aug 2001

Subject: The Seven Wonders?

Go here for some very cool looking.....OH I'm not going to tell!

<[http://www.crosslink.net/~blackcat/SevenWonders/Page\\_1x.html](http://www.crosslink.net/~blackcat/SevenWonders/Page_1x.html)>

@ @ @

From: Rich Tennis <mtennis@mtco.com>

Date: Sun, 26 Aug 2001

Subject: Good Neighbor Outdoor Lighting handout

I have run across a good two-sheet or a single sheet back-to-back handout for all PAS members to hand out to whomever they want, i.e. neighbors, local businesses, gas stations, local government officials, etc. The handout can be downloaded from <[www.skypub.com/lpnotes/gnol.html](http://www.skypub.com/lpnotes/gnol.html)>. It is on an Acrobat Reader program, which can be downloaded free.

It is pretty good for a short intro to the problem and solution. I might suggest that this would be a good handout to have when you take your telescopes to an outside location where new folks might look though them.

You can also use this to introduce that a more complete presentation for light pollution is available by contacting me or any of the Light-Control Committee members (Eric Clifton, Steve Wrigley, or Greg Potts). It is going to be through an educational approach that the light pollution problem is going to be abated or kept from growing.

@ @ @

From: Dan Son <sunshine92@home.com>

Date: Wed, 12 Sep 2001

Subject: Moon/Saturn occultation video

Found this on an email group I'm on.... Thought you might enjoy this!

Large: <[http://home1.gte.net/res0jwg1/occultation\\_lg.avi](http://home1.gte.net/res0jwg1/occultation_lg.avi)>

Medium: <[http://home1.gte.net/res0jwg1/occultation\\_md.avi](http://home1.gte.net/res0jwg1/occultation_md.avi)>

Small: <[http://home1.gte.net/res0jwg1/occultation\\_sm.avi](http://home1.gte.net/res0jwg1/occultation_sm.avi)>

@ @ @

From: Stephen E. Russell

<[sjruss55@dpc.net](mailto:sjruss55@dpc.net)>

Date: Tue, 18 Sep 2001

Subject: Light pollution

Kudos to Rich Tennis for the light pollution article in the JS today. Very impressive indeed!!!!

Speaking of light pollution, any more info on the lights out along Willow Road, I'm guessing this was CILCO's doing, not the cities?

@ @ @

From: Cary Oler

Date: Mon, 05 Nov 2001

Subject: AstroAlert: X-Class Flare Produces a Strong Solar Radiation Storm

AstroAlert

Sun-Earth Alert

Solar Terrestrial Dispatch

<<http://www.spacew.com>>

05 November 2001

Details, images, and movies:

<<http://www.spacew.com/astroalert.html>>

A significant and powerful solar flare (X-class event, the most powerful class of X-ray flares rated) exploded from active sunspot complex number 9684 at 16:19 UTC (11:19 p.m. EST) on 04 November. Less than 20 minutes later, a barrage of highly energetic particles (protons with energies greater than 100 million electron volts) traveling at near the speed of light began flooding the near-Earth space environment. At the same time, a large coronal mass ejection (CME) was observed by the Solar and Heliospheric Observatory (SOHO) spacecraft's Large Angle and Spectrometric Coronagraph Experiment (LASCO) cameras.

The trajectory of the ejected mass was quickly determined to be Earth-directed based on the halo of light that was observed propagating outward from the Sun with each of the LASCO images that were received. The CME is predicted to impact the Earth near 06:00 UTC on 06 November (11 p.m. EST on \*\*05\*\* November for North American observers), +/- up to 8 hours. The arrival of this disturbance is expected to produce a potentially strong auroral storm. Observers interested in watching for the "Northern Lights" are therefore encouraged to watch the skies of 05 and 06 November for activity. A fairly strong light show is possible on those dates. Additional information, including images and movies of the solar flare, is available at:

<<http://www.spacew.com/astroalert.html>>

@ @ @

From: Michael Shelton <mjstjs@home.com>

Date: Mon, 5 Nov 2001 21:19:52

Subject:

ATTENTION ALL PEORIA ASRTO MEMBERS. IT IS ABOUT 9:10 RIGHT NOW AND THERE IS A BEAUTIFUL AURORA OVER DUNLAP. IT IS RED AND GREEN. IT IS VERY PREETY. PLEASE LOOK OUTSIDE AS SOON AS POSSIBLE.

@ @ @

From: Brian D. Bill <bdbill@mtco.com>

Date: Mon, 5 Nov 2001 21:51:36

Subject: Northern Lights

I was watching from about 9:00 until 9:50 from Eureka and they look great!

@ @ @

From: Rich Tennis <mtennis@mtco.com>

Date: Mon, 5 Nov 2001 22:27:44

Subject: Re: Northern Lights

The view from Star House was great with the cornfields down. It was not slowed down by the Moon very much.

@ @ @

From: Tim McGrath <tkmcgrath@home.com>

Date: Sun, 11 Nov 2001

Subject: Astronomy computer software

For all kinds of good stuff, go here:

<<http://www.seds.org/billa/astrosoftware.html>>

@ @ @

From: Phil Burroughs  
<[ptburrou@ocslink.com](mailto:ptburrou@ocslink.com)>

Date: Thu, 15 Nov 2001

Subject: NorthMoor Observatory Viewing — Nov 12

To Fellow Peoria Astronomical Society Members

Thank you for opening the NorthMoor Observatory to the St. Vincent Second Graders and their families last Tuesday, Nov 12. The students really enjoyed looking through the telescopes at Mars, Saturn, the double double, and Vega, which many of them referred to as the purple star. In addition to the planets and stars, they loved watching the dome turn. They are writing thank you notes, which I will bring to the December members meeting. We were expecting 140 and I would guess the number that showed up was close to that. A special thanks to Scott Hay, Carol Wrigley, Mike Shelton, Tim McGrath, Bill Cole, and others who helped out. I hoped I spelled everyone's name correctly. Thanks again for a fun evening.

@ @ @

From: Rich Tennis <mtennis@mtco.com>

Date: Sun, 18 Nov 2001

Subject: Leonids

The Leonid meteor "storm" was somewhat overcast at "Star House" in Woodford County this morning. It was more of a "peek-a-boo" exercise with the thin cloud cover seemingly evaporating and then reforming from about 1:30 until 4:45 a.m. Called it quits at about 5:30 a.m.

However, the count through the open spaces in the thin clouds was about 60 to 120 per hour (20 minute averages). Some pretty fantastic ones were seen. Many with vapor trails and some with bursts of light. The big one that "got away" came at about 4:30 a.m. and made a very bright flash, like lightning, that could be seen through the cloud cover. Did anyone get to see that one? <[http://spaceweather.com/images2001/17nov01/zhr\\_leoc\\_big.gif](http://spaceweather.com/images2001/17nov01/zhr_leoc_big.gif)> shows what the averages were in New Mexico and Hawaii. I heard that New England states saw even more.

The weather was not too bad, but the sleeping bag and our faithful dog, Bonnie, keeping me company made it nice. My wife, Margo, took a brief look at the cloud cover and headed back inside. Looking at the cloud cover now, 7:30, we were lucky to get the thin clouds to allow us a peek at the "big show."

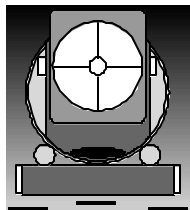
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From: Rich Tennis <mtennis@mtco.com>

Date: Sun, 18 Nov 2001

Subject: ISO a used telescope

Does anyone have a "pretty good telescope" that they would like to sell? This would be for an adult's Christmas present. This would be a telescope to start out with. The person I am doing the local search for is interested in buying one. No department store type telescopes are wanted. So, if you are about to upgrade from your present "pretty good telescope," let me know the specifications and asking price. y



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In This Issue...

Leonid Meteor Shower, PAS Banquet Report, Can You Spot This?, and more....

## Observing Club Notes

by John Barra

### Get Ready for the Geminid Meteor Shower

A new Moon should provide for a great Geminid meteor shower this month — assuming the weather cooperates. The shower peaks during the late evening hours of Thursday, December 13, 2001, to the early morning hours of Friday, December 14, 2001.

The Geminid shower is not noted for the type of meteor storms that are occasionally associated with the Leonids. However, it is probably the most reliable of all the showers.

You can usually count on seeing about 60 meteors per hour at its peak on a clear evening. The Geminids are noted for having an

occasional bright bolide to view.

Plan on coming out to Jubilee if it is clear. Even if it is cold, meteor watching can be fun if you are well prepared. Bring some snacks to share and warm drinks. A lawn chair, particular the lounge-type that lies flat, allows for comfortable viewing. And if it is cold, a good sleeping bag is highly recommended. The reactions of the other viewers can be entertaining in themselves.

### Tennis, McGrath Earn PAS Messier Award

Both Rich Tennis and Tim McGrath earned their PAS Intermediate Messier Certificates this month — the first members to earn these new awards. Those certificates are presented to PAS mem-

bers who have observed 50 different Messier objects.

This summer, the PAS created various Messier certificates for observing levels that are stepping stones toward obtaining the Astronomical League awards. The AL awards an honorary certificate for observing 70 Messier objects with a telescope, a regular certificate for observing all 110 with a telescope, and a binocular certificate for observing 50 with binoculars. The PAS awards are given for observing 50 and 100 objects with a telescope and 40 with binoculars.

The PAS also awards certificates for various viewing levels at Messier marathons and for observing all objects during the seasonal mini-marathons. Congratulations to Rich and Tim for their achievements. y

*...The Geminids are...the most reliable of all the showers....*