

# SKYLIGHTS

Newsletter of the Astronomical Society of Northern New England



APR. 2010



Member of NASA's  
Night Sky Network



Astronomical League  
Member

## ASNNE MISSION

ASNNE is an incorporated, non-profit, scientific and educational organization with three primary goals:

- 1) *To have fun sharing our knowledge and interest with others.*
- 2) *To provide basic education in astronomy and related sciences to all who are interested.*
- 3) *To promote the science of Astronomy.*

## What's Up In April

By *Bernie Reim*

The name for this month comes from the word Aprilis, which means aperture or opening. That is what much of the northern hemisphere of the earth is now doing as we are ever so slowly tilting back towards the sun again after the vernal equinox.

There are many highlights to enjoy this month during the warmer nights that are approaching. Try to find the darkest skies possible to catch these celestial events, both the obvious ones and the more subtle ones.

We will start with the best apparition of our first planet, Mercury for the whole year. Our smallest planet will be more than 10 degrees above the western horizon half an hour after sunset during the first two weeks this month. Through a telescope you will notice that Mercury is slowly getting less illuminated by the sun, but larger in the sky as the month progresses. It will appear like a last quarter moon on the 10th, and then turn into a waning crescent after that.

Legend has it that Copernicus, who first formed the heliocentric theory nearly 500 years ago, never actually saw Mercury for himself. He most likely did see it during its better apparitions, but Mercury is the lowest and faintest of the 5 naked-eye visible planets, and many people on Earth have still never seen this elusive planet.

Our second planet, Venus, will drift just 3 degrees above our first planet during the evening before Easter and also on the next evening, Easter Sunday, April 4th. Venus is continuing to slowly climb higher into the sky even as it gets a little larger and less illuminated by the sun as it gets closer to Earth on its faster orbit around the sun.

We will welcome back Jupiter, the King of the Planets, into the morning sky an hour before sunrise. By the end of April, it will rise two hours before the sun.

The slender waxing crescent moon will join Mercury and Venus one hour after sunset on the 15th, and then proceed to drift past the Pleiades again during the next two evenings.

The last obvious highlight will be Mars gliding just above the Beehive star cluster once again during the evenings of the 16th through the 18th. Try to watch this event through binoculars or a telescope. See if you can observe the continual, second-by-second motion of Mars near the stars in the Beehive through a telescope. That is possible, because Mars moves quite fast, half a degree eastward per day. That is only 24 times slower than the moon, which moves its own width, half a degree, eastward every hour. The red planet ended its retrograde, or westward motion towards Gemini on the 11th of last month, and is now back to its normal, prograde, or eastward motion towards Leo. Watch as the first quarter moon drifts just below the celestial pair shortly after dark on the evening of the 21st.

The first subtle event this month will be your last chance to see the zodiacal light in the evening sky this year. It only shows up about one hour after sunset around the beginning of spring or one hour before dawn in the morning sky in fall. I have only seen it twice, once before dawn during that spectacular and memorable Leonid meteor shower on November 18 of 2001 when it was literally raining

*"Continued on page 2"*

## Inside This Issue

Club Contact List	pg 2
Moon Data	pg 3
Sky Object of the Month	
Meteor Showers in 2010	pg 4
Space Place Newsletter	
Club Items For Sale	
Barlow Bob's Corner "SAROS"	pg 5-8
Deadly Planets	pg 9
Club Meeting & Star Party Dates	pg 10
Directions ASNNE Locations	
Become a Member	pg 11

## **Club Contacts**

### **Officers:**

President:  
Ron Burk  
rdavidburk@yahoo.com

Vice President:  
Joan Chamberlin  
starladyjoan@yahoo.com

Secretary:  
Alan Goff  
alanguoff@computer.org

Treasurer:  
TBD  
See Ron Burk for now

### **Board of Directors:**

Albert Heinrich  
aheinrich42001@yahoo.com.au

David Bianchi  
dbianchi@verizon.net

Adam Amara  
amara.adam@juno.com

### **Star Party Co-ordinator:**

TBD

### **Skylights Editor:**

Paul Kursewicz  
pkursewicz@myfairpoint.net

### **Website Manager:**

Jim Hatch  
nerdfulthings@earthlink.net

### **NASA Night Sky Network**

#### **Co-ordinator:**

Joan Chamberlin  
starladyjoan@yahoo.com

### **JPL Solar System Ambassador:**

Joan Chamberlin  
starladyjoan@yahoo.com

### **What's Up "Continued from page 1"**

meteors for three hours straight at the rate of about 1000 per hour. The other time I saw this amazing event was about one hour after sunset in March during a star party that our astronomy club gave in Cumberland, Maine.

The zodiacal light looks like a tilted cone of ghostly, glowing light in the shape of a haystack or pyramid. Right now it would be centered on Venus and may reach up as high as the Pleiades and Hyades star clusters. Start looking for it just as the last of the evening twilight fades away from a very dark-sky site with no light pollution to mask this subtle beauty. The zodiacal light is an interplanetary dust cloud made up of comet dust and tiny left-over particles from the formation of our solar system 4.6 billion years ago. These particles are several miles apart, but they pervade the entire plane of our solar system and reflect light well. Remember that it is always there, but we can only see it for a few weeks twice a year as the angle of our horizon to the ecliptic is at its steepest.

The last subtle event will be the Lyrid Meteor shower. They will peak on Thursday morning the 22nd, which also happens to be the 40th anniversary of Earth Day. The Lyrids usually only produce about 15 to 20 meteors per hour, emanating from the constellation of Lyra, but this time the numbers will be fewer due to the moon being just 6 days before a full moon that night.

Saturn is just past opposition now, so it is rising in our eastern sky before sunset. It is located near the head of Virgo, close to the richest region of the Virgo Galaxy Cluster. This is an amazing cluster containing around 2000 galaxies located 50 million light years away and stretching across 10 million light years of space. This cluster is much richer than our own little cluster, called the Local Group, which consists of 30 galaxies including the Andromeda and our home galaxy, the Milky Way. Expanding even farther out to a diameter of 100 million light years, both of these clusters are part of the much vaster Virgo Super cluster of galaxies which consists of 100 individual galaxy clusters including our own.

April 1. On this day in 1997, Comet Hale-Bopp made its closest approach to the sun.

April 3. Orange Antares, which means "rival

waning gibbous moon this morning one hour before sunrise.

April 6. Last quarter moon is at 5:37 a.m. EDT.

April 7. On this day in 1991 the Compton Gamma Ray Observatory was deployed into low earth orbit of only 280 miles up to avoid the Van Allen radiation belts. It discovered nearly one extremely energetic and powerful gamma ray burst per day during its 9 years in orbit. It was brought back down on June 4 of 2000.

April 11. The waning crescent moon will be 5 degrees above Jupiter this morning before dawn.

April 12. On this day in 1961 Yuri Gagarin became the first human in space.

April 15-16. The slender waxing crescent moon will be near Mercury and Venus this evening and near the Pleiades the next evening one hour after sunset.

April 16-18. Mars will drift directly above the Beehive star cluster in Cancer these evenings.

April 21. First quarter moon is at 2:20 p.m.

April 23. Max Planck, a German physicist, was born on this day in 1858. He developed quantum mechanics that showed the dual wave-particle nature of photons and electrons.

April 23-25. Venus and the Pleiades fit into a 5-degree field of view these 3 evenings.

April 25. The Hubble Space Telescope was deployed on this day in 1990. It is still taking great pictures 20 years later. Its last servicing mission was performed last July, so the Hubble Space Telescope may be brought back down within 3 to 4 years after taking over a million pictures and making many great earth-shaking discoveries.

April 28. Full moon is at 8:18 a.m. This is also known as the Grass, Egg, Pink, or Fish Moon.

Moon Phases

**Apr 6**  
Last Quarter

**Apr 14**  
New

**Apr 21**  
First Quarter

**Apr 28**  
Full

Moon Data

**Apr 8**  
Moon at apogee

**Apr 9**  
Neptune 4° south  
of Moon

**Apr 11**  
Jupiter 6° south  
of Moon

**Apr 12**  
Uranus 5.4° south  
of Moon

**Apr 15**  
Mercury 1.5° south  
of Moon

**Apr 16**  
Venus 4° south  
of Moon

**Apr 22**  
Mars 5° north  
of Moon

**Apr 24**  
Moon at perigee

**Apr 25**  
Saturn 8° north  
of Moon

## Sky Object of the Month – April 2010

### Sirius by Glenn Chaple

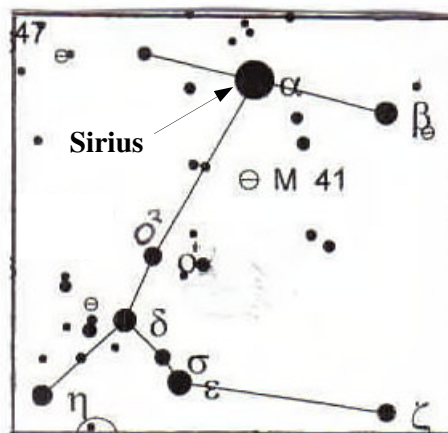
An unwritten law in astronomy states that you should avoid observing any sky object when it's near the horizon. First of all, incoming light has to pass through a greater amount of earth's atmosphere when approaching from a low altitude. Secondly, ripples from escaping ground heat create turbulence that's most troublesome near the horizon.

However, if you want to experience one of the night sky's loveliest treats, ignore that law and look at Sirius when it's low in the sky. When the night sky's brightest star is situated high above the southern horizon as it is after sunset on February and March evenings, it's a magnificent sight. A gleaming, sparkling diamond, Sirius captivates the beholder, no matter whether viewed with unaided eye, binocular, or telescope.

Sirius is now on the wane, setting soon after sunset. As it nears the horizon, something magical happens. That same atmospheric turbulence that wreaks havoc on sky objects refracts the light from Sirius, causing it to sparkle in a dazzling array of gemlike hues. Its diamond like radiance is interrupted by flashes of ruby red and emerald green - a visually entrancing sight.

Next time you set out to do some "serious" astronomy, try a moment to make a "Sirius" observation. You'll be delighted you did.

Your comments on this column are welcome. E-mail me at [gchapple@hotmail.com](mailto:gchapple@hotmail.com)



## Canis Major

## Principal Meteor Showers in 2010

**January 4**  
Quadrantids

**April 22**  
Lyrids

**May 6**  
Eta Aquarids

**July 30**  
Delta Aquarids

**August 12**  
Perseids

**October 9**  
Draconid

**October 21**  
Orionids

**November 9**  
Taurids

**November 18**  
Leonids

**November 26**  
Andromedids

**December 14**  
Geminids

**December 22**  
Ursids

*Note: Dates are for maximum*

Hello,

We have just published the latest issue of the Space Place Newsletter: News and Notes for Formal and Informal Educators. The newsletter is all about the many useful and--it goes without saying--free resources on the Space Place website that can be helpful for kids and grown-ups interested learning about science, technology, and space. It may be downloaded from <http://spaceplace.nasa.gov/en/educators>.

We hope you and your colleagues find the newsletter and our website: <http://spaceplace.nasa.gov/en/kids/> helpful.

Sincerely,

Laura K. Lincoln  
Space Place Coordinator  
Jet Propulsion Laboratory M/S 606-100  
California Institute of Technology



## Club Items For Sale



Our club has merchandise for sale at:  
[www.cafepress.com/asne](http://www.cafepress.com/asne)

*All money raised goes to our operating fund.*

Any design can be put on any item.  
Just let our Director, David Bianchi, know.

Got any News?  
Skylights Welcomes your Input.

*Here are some suggestions:*

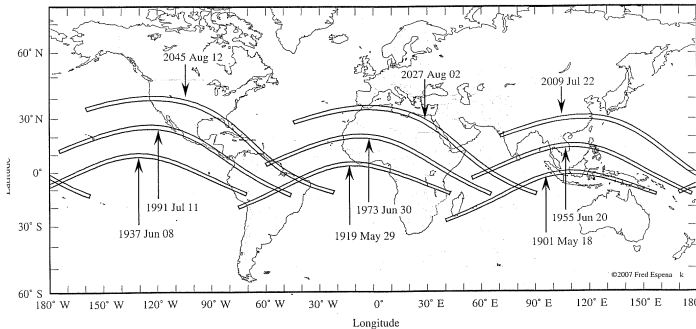
*Book reviews -- Items for sale -- New equipment --  
Ramblings -- Star parties -- Observing -- Photos.*

Barlow Bob's Corner

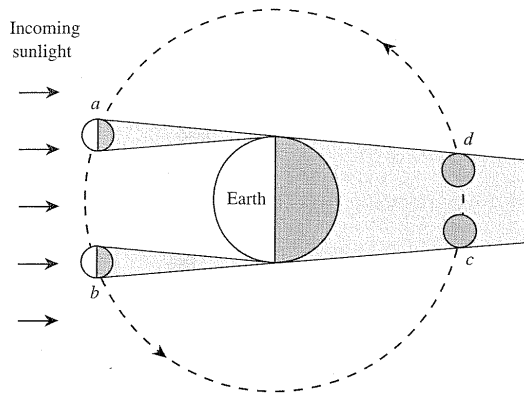
## “SAROS” (parts 2, 3, and 4 of 4) by Barlow Bob

### SAROS 136 MAP

These are the paths of totality for six past and three future eclipses of saros 136. Successive eclipses shift westward and northward. For odd-numbered saros, eclipses shift westward and southward. (Map and eclipse calculations by Fred Espenak used with permission.) 1



### ECLIPSE LIMIT



The Moon will be totally eclipsed whenever it passes into the shadow of the Earth – between c and d on the diagram. At the Moon’s average distance from Earth, the shadow is about 2.7 times the Moon’s diameter. But there will be an eclipse of the Sun whenever the Moon passes between the Earth and the Sun - between points a and b. The distance between a and b is longer than between c and d, so total solar eclipses must occur slightly more often. (Eclipse illustration used with permission.) 1

Why does a total solar eclipse occur? How large (angular size) is the Moon in the sky? Extend your arm fully away from your body. Using your index finger and thumb, imagine that you are trying to pluck the Moon out of the sky. Squeeze these fingers together, until you are just touching the top and bottom of the Moon. How big is the space between your fingers? Is it the same size as a penny, dime, nickel, or quarter coin? It is the size of a pea.

The Moon’s diameter is 1/400 of the Sun’s.  
The Moon’s mean distance is 1/389 of the Sun’s.  
The Moon and Sun are nearly the same size as seen from Earth. 1

On the average, the Moon’s shadow is too short to reach the Earth. Therefore, total solar eclipses happen less often than annular solar eclipses. 1

The Moon’s angular diameter can exceed the Sun’s angular diameter by as much as 6.6% (2.1 arc minutes), producing a total eclipse of the Sun. 1

The Sun’s angular diameter can exceed the Moon’s angular diameter by as much as 10.7% (3.1 arc minutes), producing an annular eclipse of the Sun. 1

On the average, the Moon’s angular diameter is smaller than the Sun’s angular diameter. Therefore, total solar eclipses occur less often than annular solar eclipses. 1

A saros is an eclipse cycle of 6,585.32 days (18 years 11 1/3 days or 18 years 10 1/3 days if five leap years occur in the interval) in which an eclipse will occur which is very similar to the one that preceded it. The saros results from the near equivalence of 223 synodic months in 18.6 years.

A *Saros Cycle* is a royal family of related solar eclipses, similar to the English royal family. Beginning with a small partial solar eclipse near the North Pole, thirty seven Saros 136 eclipses have occurred from 1360 to 2009. Saros 136 will produce 33 more, ending 1,262 years later in 2622, with a final small partial solar eclipse near the South Pole.

“Continued on page 6”

## SAROS

The first Saros 136 partial eclipse in 1360 occurred, during the reign of King Edward III, under a Feudal System in the Middle Ages. This saros continued through the reign of 32 English monarchs up to 2009, during the reign of Queen Elizabeth II, under a Constitutional Monarchy. These eclipses stretched over many periods of English history, including: the Hundred Years War with France, Wars of the Roses, Tudor Period, English Reformation, union of the crowns of England and Scotland, expansion into America, Wars in America and France, Victorian Age, imperial expansion into Africa, World War I, World War II, industrial unrest and the United Kingdom within the European Union.

To date, Saros 136 has produced partial, annular, hybrid and some of the longest total eclipses. Four Saros 136 eclipses happened during the 64 year reign of Queen Victoria and 3 during the 58 year reign of Queen Elizabeth II. Most Saros 136 King Edward III type of partial eclipses will pass unnoticed in the far northern and southern latitudes. However, some of the longest Queen Elizabeth II type of total eclipses will be magnificent.

The eclipse family known as saros 136 began on June 14, 1360 in the farthest area of the southern hemisphere, over Antarctica and the Southern Indian Ocean. At this time the Moon was located at the descending node, crossing the Sun's path heading south. At this time, the Sun was near that node. The Moon covered the southeastern edge of the Sun. This eclipse passed unnoticed, since there was no one in this southern area and this event could only have been observed using a solar filter. The firstborn of every saros family is always a tiny partial eclipse that

brushes the Earth at one of the poles. As time passed, forty-one other solar eclipses occurred over various areas of the Earth. However, these eclipses were members of other saros families. After 5,585 days, the Moon had completed 223 lunations and the Sun had passed by the descending node of the Moon 19 times. At this time the two cycles matched almost exactly and the conditions were in place for the second saros 136 eclipse to occur in 1378 during the reign of King Richard II.

The cycle of repeated eclipses was discovered in the second Babylonian empire, the Chaladean Empire. However, there is no evidence that the Babylonians ever applied *saros* to this 18-year eclipse cycle. By 449 BCE, the originally ethnic term *Chaladean* had been specialized to mean a wise man and, in this century an astronomer in particular. 2

The Chaladean were nomadic Semites, who recorded their astronomy observations on clay tablets in their cuneiform writing. The Chaladean Empire, with its capital at Babylon lasted under King Nebuchadnezzar II and his successors until 539 BCE. Democritus of Abdera, the first Greek scientist, was known to have visited Babylonia in person. 2

The use of the word *saros* to mean a 223-lunar month eclipse cycle, was erroneously introduced in 1691 by Edmond Halley, when he applied it to the Babylonian eclipse cycle on the basis of the manuscript by the Roman naturalist Pliny. The Babylonian sign *SAR* has meaning, as both a word and number. 1

Home work assignment: Take the date of any solar or lunar eclipse and add 6,585.32 days to it and you will accurately predict a future eclipse of the same kind that will closely resemble the one 18 years earlier. Take the date of *every* solar and lunar eclipse and continue to adding 6,585.32 days to it and you will have, with few exceptions, a dependable list of future eclipses. 223 synodic monthly cycle of the phases of the Moon *Lunations* at 29.5306 each equal 6,585.32 days.

Since 1990, I have observed the Sun with attitude, (neafsolar.com) through every type of safe commercial solar filter and solar spectroscope. I have also observed several annular solar eclipses. However, I have never observed a total solar eclipse.

After reading Totality Eclipses of the Sun, I now have a reason to live until August 21, 2017. This is the date of the All-American total eclipse of 2017. This eclipse is a member of saros 145. It will move diagonally across the United States, with eclipse maximum in Kentucky at latitude 37 degrees north. I have to live anyway until 2012, to observe the extremely rare second Transit of Venus of 2012.

This article is dedicated to the memory of Joe "Saros" Pesselli (19xx - 2004).

1. Totality Eclipses of the Sun  
Littmann, Espenak, Willcox  
Oxford University Press  
ISBN 978-0-19-956552

2. History of the Persian Empire  
A.T. Ollmstead

"Continued on page 7"

## SAROS 136

NUMBER		DATE		TYPE	DURATION (a)
1	1360	JUNE	14	PARTIAL	-0.05
2	1378	JUNE	25	PARTIAL	-0.199
3	1396	JULY	5	PARTIAL	-0.346
4	1414	JULY	17	PARTIAL	-0.489
5	1432	JULY	27	PARTIAL	-0.626
6	1450	AUGUST	7	PARTIAL	-0.757
7	1468	AUGUST	18	PARTIAL	-0.876
8	1486	AUGUST	29	PARTIAL	-0.986
9	1504	SEPTEMBER	8	ANNULAR	0:31
10	1522	SEPTEMBER	19	ANNULAR	0:23
11	1540	SEPTEMBER	30	ANNULAR	0:17
12	1558	OCTOBER	11	ANNULAR	0:12
13	1576	OCTOBER	21	ANNULAR	0:08
14	1594	NOVEMBER	12(b)	ANNULAR	0:04
15	1612	NOVEMBER	22	HYBRID	TOTALITY: 0:01
16	1630	DECEMBER	4	HYBRID	TOTALITY: 0:07
17	1648	DECEMBER	14	HYBRID	TOTALITY: 0:15
18	1666	DECEMBER	25	HYBRID	TOTALITY: 0:24
19	1685	JANUARY	5	HYBRID	TOTALITY: 0:35
20	1703	JANUARY	17	HYBRID	TOTALITY: 0:50
21	1721	JANUARY	27	TOTAL	1:07
22	1739	FEBRUARY	8	TOTAL	1;28
23	1757	FEBRUARY	18	TOTAL	1:52
24	1775	MARCH	1	TOTAL	2:20
25	1793	MARCH	12	TOTAL	2:52
26	1811	MARCH	24	TOTAL	3:27
27	1829	APRIL	3	TOTAL	4:05
28	1847	APRIL	15	TOTAL	4:44
29	1865	APRIL	25	TOTAL	5:23
30	1883	MAY	6	TOTAL	5:58
31	1901	MAY	18	TOTAL	6:29
32	1919	MAY	29	TOTAL	6:51
33	1937	JUNE	8	TOTAL	7:04
34	1955	JUNE	20	TOTAL	7:08
35	1973	JUNE	30	TOTAL	7:04
36	1991	JULY	11	TOTAL	6:53
37	2009	JULY	22	TOTAL	6:39
38	2027	AUGUST	2	TOTAL	6;23
39	2045	AUGUST	12	TOTAL	6:06
40	2063	AUGUST	24	TOTAL	5:49
41	2081	SEPTEMBER	3	TOTAL	5:33
42	2099	SEPTEMBER	14	TOTAL	5;18
43	2117	SEPTEMBER	26	TOTAL	5:04
44	2135	OCTOBER	7	TOTAL	4:50
45	2153	OCTOBER	17	TOTAL	4:36
46	2171	OCTOBER	29	TOTAL	4:23
47	2189	NOVEMBER	8	TOTAL	4:10
48	2207	NOVEMBER	20	TOTAL	3:56
49	2225	DECEMBER	1	TOTAL	3:43
50	2243	DECEMBER	12	TOTAL	3:30
51	2261	DECEMBER	22	TOTAL	3:17
52	2280	JANUARY	3	TOTAL	3:04

*“Continued on page8”*

## SAROS 136 continued

NUMBER	DATE	TYPE	DURATION (a)
53	2298	JANUARY 13	TOTAL 2:52
54	2316	JANUARY 25	TOTAL 2:42
55	2334	FEBRUARY 5	TOTAL 2:32
56	2352	FEBRUARY 16	TOTAL 2:24
57	2370	FEBRUARY 27	TOTAL 2:17
58	2388	MARCH 9	TOTAL 2:10
59	2406	MARCH 20	TOTAL 2:03
60	2424	MARCH 31	TOTAL 1:55
61	2442	APRIL 11	TOTAL 1:46
62	2460	APRIL 21	TOTAL 1:34
63	2478	MAY 3	TOTAL 1:21
64	2496	MAY 13	TOTAL 1:02
65	2514	MAY 25	PARTIAL -0.952
66	2532	JUNE 5	PARTIAL -0.824
67	2550	JUNE 16	PARTIAL -0.685
68	2568	JUNE 26	PARTIAL -0.544
69	2586	JULY 7	PARTIAL -0.397
70	2604	JULY 19	PARTIAL -0.252
71	2622	JULY 30	PARTIAL -0.105

## Breakdown of solar eclipses in saros 136:

Total	44
Annular	6
Hybrid (annular/total)	6
Partial	15

Solar eclipses in saros 136:	71
Span of saros 136:	1,262 years

Source: NASA Saros 136 web page:  
<<http://eclipse.gsfc.nasa.gov/SEsaros/SEsaros136.html>>.

Saros series with even numbers occur at the descending node. They start near the south pole and progress northward. Saros series with odd numbers occur at the ascending node. They start near the north pole and progress southward.

(a) Duration of totality or annularity is given in minutes: seconds. If eclipse is partial, its magnitude (fraction of the Sun's diameter covered by the Moon) appears as a negative figure. (b) Henceforth on the Gregorian calendar, which replaced the Julian calendar in 1582 and dropped ten days from that year to keep March at the beginning of spring.

## Saros Series Statistics

	Range	Average
Number of solar eclipses in a saros series	69 - 87	72
Time span for a series	1,226 - 1,551 years	1,280 years

At any time, 42 saros series are running simultaneously.



## Deadly Planets

By Patrick L. Barry and Dr. Tony Phillips

About 900 light years from here is a rocky planet not much bigger than Earth. It goes around its star once every hundred days, a trifle fast, but not too different from a standard Earth-year. At least two and possibly three other planets circle the same star, forming a complete solar system.

Interested? Don't be. Going there would be the last thing you ever do.

The star is a pulsar, PSR 1257+12, the seething-hot core of a supernova that exploded millions of years ago. Its planets are bathed not in gentle, life-giving sunshine but instead a blistering torrent of X-rays and high-energy particles.

"It would be like trying to live next to Chernobyl," says Charles Beichman, a scientist at JPL and director of the Michelson Science Center at Caltech.

Our own Sun emits small amounts of pulsar-like X-rays and high energy particles, but the amount of such radiation coming from a pulsar is "orders of magnitude more," he says. Even for a planet orbiting as far out as the Earth, this radiation could blow away the planet's atmosphere, and even vaporize sand right off the planet's surface.

Astronomer Alex Wolszczan discovered planets around PSR 1257+12 in the 1990s using Puerto Rico's giant Arecibo radio telescope. At first, no one believed worlds could form around pulsars—it was too bizarre. Supernovas were supposed to destroy planets, not create them. Where did these worlds come from?

NASA's Spitzer Space Telescope may have found the solution. In 2005, a group of astronomers led by Deepto Chakrabarty of MIT pointed the infrared telescope toward pulsar 4U 0142+61. Data revealed a disk of gas and dust surrounding the central star, probably wreckage from the supernova. It was just the sort of disk that could coalesce to form planets!

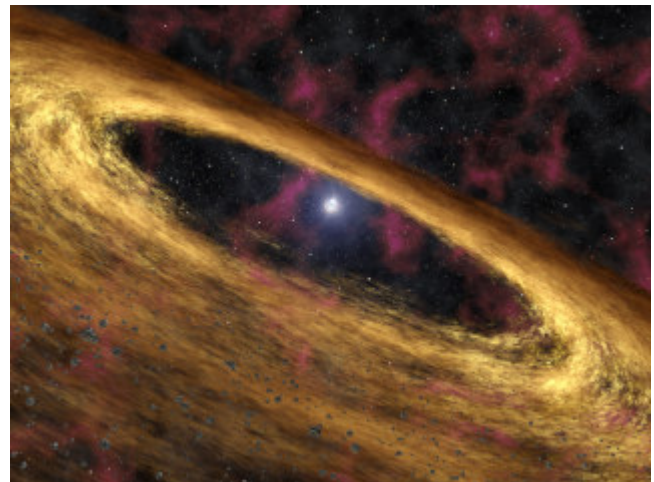
As deadly as pulsar planets are, they might also be hauntingly beautiful. The vaporized matter rising from the planets' surfaces could be ionized by the incoming radiation, creating colorful auroras across the sky. And though the pulsar would only appear as a tiny dot in the sky (the pulsar itself is only 20-40 km across), it would be enshrouded in a hazy glow of light emitted

by radiation particles as they curve in the pulsar's strong magnetic field.

Wasted beauty? Maybe. Beichman points out the positive: "It's an awful place to try and form planets, but if you can do it there, you can do it anywhere."

Find more news and images from Spitzer at <http://www.spitzer.caltech.edu/>. In addition, The Space Place Web site features several games related to Spitzer and infrared astronomy, as well as a storybook about a girl who dreamed of finding another Earth. Go to <http://tiny.cc/lucy208>.

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



**Caption:**

*Artist's concept of a pulsar and a surrounding disk of rubble called a "fallback" disk, out of which new planets could form.*

## Club Meeting & Star Party Dates

Date	Subject	Location
April 9  <b>NOTE:</b> <i>Due to the Easter Holiday, our club meeting date will be the on the 9th rather than on the 2nd.</i>	<b>ASNNE Club Meeting</b>  <b>7:00 -7:30PM:</b> Social Hour and Joan's Beginner Astronomy Class (Public walk-ins welcome). <b>7:30-9:30PM:</b> Club Meeting: *Bernie Reim's "What's Up." *Astro Shorts & Astro News. *Dark Skies: Friendly Lighting Updates  <b>Guest Speaker: Alan Friot</b> Philosopher, Writer and Theorist, will visit us again and talk about the tilt of the Earth...23.5° or 21.3°, that is the question.	Masonic Hall West Kennebunk, Me.
April 16	Club/Public Star Party. Rain date April 17. <i>(Visit website for updates and or cancellations).</i>	Starfield Observatory, West Kennebunk, Me.
May 7 June 4 July 2  August 6	James Standerfer PhD.- Physicist and new ASNNE member will give a talk on General Relativity. Steve Innes - Will share his 2009 China Eclipse experience with us. (1 hr later start) Jim Hatch on the Starfield Telescopes and Dark Sky Outreach efforts. We will meet first at our meeting location in case of rain - then travel to Starfield. Club member shorts - a collection of short presentations from interested members who would like to share their interests. Like: -Brad Irish and his solar interest, images & scope. -Ron Burk on Moon Risings. Anyone else have a short to share? We have room for more - let Ron know.	

### Directions to ASNNE event locations

#### Directions to Masonic Hall

##### **From I-95:**

If coming southbound, take Exit 25 off of I-95. Come out to Rte. 35. Turn left at stop sign and turn right at next stop sign. Proceed straight ahead and you will see a variety store on the left and the Masonic Hall will be on the right.

If coming northbound, take Exit 25 off of I-95. Turn right at the stop sign and cross over I-95. Proceed straight for about 1/2 mile. There will be a variety store on the left and the Masonic Hall will be on the right.

#### Directions to Starfield Observatory

##### **From North:**

Get off turnpike at exit 32, (Biddeford) turn right on Rt 111. Go 5 miles and turn left on Rt 35. Go 2 miles on Rt 35 over Kennebunk River to very sharp 90 degree left turn. The entrance to the Starfield Observatory site is at the telephone pole at the beginning of the large field on the left. Look for the ASNNE sign on the pole.

##### **From South:**

Get off the turnpike at exit 25 in Kennebunk. After toll both turn right on Rt 35. Go up over the turnpike and immediately turn right on Rt 35. About 4 miles along you will crest a hill and see a large field on your right. Continue until you reach the end of the field. Turn right into the Starfield Observatory site at the last telephone pole along the field. Look for the ASNNE sign on the pole. If you come to a very sharp 90 degree right turn you have just passed the field.

To join **ASNNE**, please fill out the below membership form. *Checks should be made payable to: Astronomical Society of Northern New England (A.S.N.N.E).* For more details, please visit our website:  
<http://www.asnne.org>

✂

Astronomical Society of Northern New England  
P.O. Box 1338  
Kennebunk, ME 04043-1338

**2010 Membership Registration Form**

(Print, fill out and mail to address above)

Name(s for family): \_\_\_\_\_

Address: \_\_\_\_\_

City/State: \_\_\_\_\_ Zip code: \_\_\_\_\_

Telephone # \_\_\_\_\_

E-mail: \_\_\_\_\_

Membership (check one):  
Individual \$35 \_\_\_\_\_ Family \$ 40 \_\_\_\_\_ Student under 21 years of age \$10 \_\_\_\_\_ Donation \_\_\_\_\_

Sky & Telescope (\$32.95) \_\_\_\_\_ Astronomy (\$34) \_\_\_\_\_

Total Enclosed \_\_\_\_\_

Tell us about yourself:

1. Experience level: Beginner \_\_\_\_\_ Some Experience \_\_\_\_\_ Advanced \_\_\_\_\_

2. Do you own any equipment? (Y/N) And if so, what types?  
\_\_\_\_\_

3. Do you have any special interests in Astronomy?  
\_\_\_\_\_

4. What do you hope to gain by joining ASNNE?  
\_\_\_\_\_

5. How could ASNNE best help you pursue your interest in Astronomy?  
\_\_\_\_\_

6. ASNNE's principal mission is public education. We hold many star parties for schools and the general public for which we need volunteers for a variety of tasks, from operating telescopes to registering guests to parking cars. Would you be interested in helping?  
Yes \_\_\_\_\_ No \_\_\_\_\_

7. ASNNE maintains a members-only section of its web site for names, addresses and interests of members as a way for members to contact each other. Your information will not be used for any other purpose. Can we add your information to that portion of our web site?  
Yes \_\_\_\_\_ No \_\_\_\_\_

✂