



# The Night Sky

The Newsletter of  
The Astronomy Club of Akron

www.acorn.net/aca

Volume 23 Number 12

December 2001

## ACA wishes you Happy New Year!



### FROM THE PRESIDENT

Merry Christmas, 2001. Here it is almost the end of 2001. Things have changed over the last twelve months. We've almost completed another year of programs at the observatory. Attendance at these programs I think has been more than in previous years. (Thanks to Ray and all the presenters.) We recently had the best meteor shower in many, many, years. There have been many interesting speakers at our meetings (Thanks Jim). The refreshments at meetings have been great (Thanks Debbie & Pam.).

Our holiday dinner will be held on Saturday, January 19, 2001 at the Kiwanis Center. The time is 7:00 PM. The Club will provide a ham and coffee. Becky has donated a turkey again. This is a covered dish dinner, which means those attending please bring a covered dish or soft drinks to share. John Svitko, his wife Fran and I are coordinating the dinner. Please call us (330-929-0222 Svitko's) (330-794-9087 Koby's) and let us know what you are planning to bring to share so we don't have 23

dishes of sweet potatoes.

See you at the holiday dinner on the 19<sup>th</sup> at 7:00 PM.

Jay Svitko has volunteered to fill the position of Assistant Secretary/Treasurer. Thank you, Jay!



### AS THE SKY BURNED...

By Jay Svitko

The most amazing light show I have experienced in all of my 28 years as an amateur astronomer occurred at 5am of November 18<sup>th</sup> this year. After playing poker that evening, I promised my friends & myself that I would not miss this predicted exquisite sky experience, and I was not disappointed. I left the boys early at approximately 1am and drove home to gather up a smidgen of sleep before venturing out to the observatory. As the alarm blared in my ear, I popped out of

bed with the enthusiasm of knowing it wasn't to go to work, but something that I WAS looking forward to doing. After stopping outside my apartment and starrng up, as I am want to do everytime I step outside, my first thought was coffee was the first order of business. As I was driving south on Rt. 8, I noticed the fog was rolling through and waves of disappointment came over me. "Was I going to be able to see anything?" "Will anyone be out there except me?" These questions seemed to hover around me making the fog seem thicker.

As I pulled into the park and turned towards the observatory, I was startled to see cars parked on the side of the road, 100's of feet in front of the turn off before the observatory. I was so amazed, I just pulled off to the side and parked. (My trucks headlights do not turn off and I did not want to ruin anyone night vision). I walked over to the observatory, looking up with amazement and trying not to trip on all of the people lying on blankets in the grass. Every few seconds, a streak of light would catch my eye, and I would have (continued on page 3)

## Activities Calendar

### Club

January 19, Holiday Dinner and Meeting

### Celestial

January 1, Jupiter at opposition  
January 3, Quadrantid Meteors shower peaks  
January 13, New Moon  
January 28, Full Moon

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The deadline for article submission is **two weeks before the next meeting**. All word processing files should be saved in straight ASCII text files or any version of Word to minimize import problems. We will not turn away **any** submission, as long as the article's subject is astronomy or a related topic. If you don't have access to a computer, don't hesitate to write something out long hand. As long as it is legible, I will slave over the keyboard and get it published.

**PLEASE SEND IN YOUR ARTICLES!!!!**

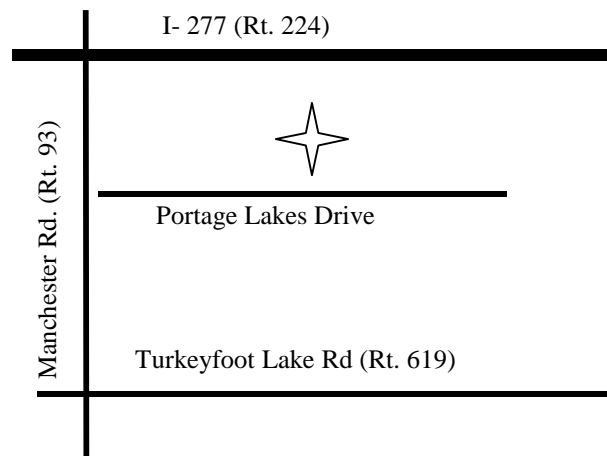
**The newsletter (and the club) will be much richer with your contribution. Thanks to all who have used their valuable time to author or collect material for the Night Sky. (Editor)**

Send your articles, items for sale, and comments to:

**Ray Hyer, 725 Brewer St. Akron, OH 44305** Email: [rhyer@neo.rr.com](mailto:rhyer@neo.rr.com)

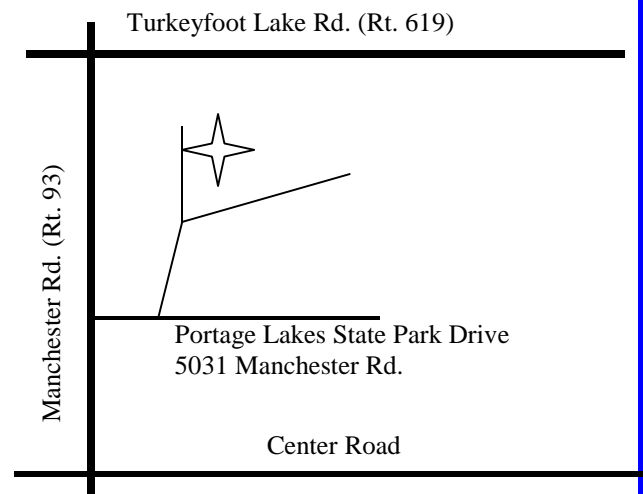
### MONTHLY MEETING LOCATION:

The Astronomy Club of Akron meets at 8:00 PM at the Kiwanis Hall, 725 Portage Lakes Drive.



### OBSERVATORY LOCATION:

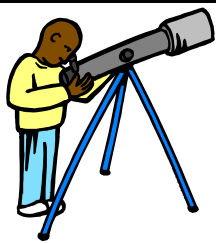
The ACA Observatory is located within the Portage Lakes State Park on Manchester Rd. (Rt. 93). Turn left off Manchester Rd, then left at the first drive. Observatory is across the street from the Park Office.



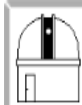
to spin to catch the residue light trail. I was amazed to see the number of people who came out to witness this show (My estimation is 100-200), but with all the publicity the club was getting in the last week, it should be no surprise that this was the place to be.

I walked over to Ray, only being able to tell who he was by his voice (He was bundled up like an Eskimo). I stared skyward, with my back against a car, towards Leo. I heard the voice of my astronomy professor. He was as in awe as everyone else, counting and pointing. As the peak of shower made its way across the sky, my head felt like a bobble-doll, turning and twisting in every direction. Along with the fire in the sky, the ISS made a brief appearance (2mins) in the Northwest at approx. 15 degrees.

As the crowd dispersed, and everyone was probably heading back to bed, I continued to watch the sky. As the stars blinked out of my vision as the sun greeted the horizon, but stayed behind a low lying shield of clouds, my thoughts were of my wife, who was at home, sick in bed, and of the skyshow that she would have to wait next year to see. Only 33 years till the next Leonid maximum, Mary.....



Don't forget to bring your 2001 Observers list results to the Holiday Dinner to be eligible for one of the great prizes being awarded to the top observers.



## ZODIAC TOUR... CANCER

The eleventh "House" of the zodiac is Cancer, The Crab. The sign is shown in the zodiac as a crab with its two powerful claws and many legs. In the early Egyptian, Esneh, and Hindu zodiacs this sign is represented as a beetle. (The beetle was held sacred as an emblem representing the resurrection of the body.) According to the Greeks, Jupiter placed this crab amongst the signs of the zodiac.

The ancient names mean "who holds or binds", "to bind together", "holding", "encircling". There is no ancient word for a crab. It would be classed many other unclean animals as unclean.

The sign contains 83 stars. In the center of the constellation is a bright cluster of stars today known as 'the beehive'. The ancient name is Praesepe, which means 'multitude' or 'offspring'. Other star names mean 'sheltering', 'hiding place', 'assembled thousands', 'kids (goats)' and 'lambs'. The modern sign (♋) comes from two stars with the names of Asellus Borealis and Asellus Australus, which mean respectively Northern Ass and Southern Ass. (So if you are born in this sign like I was you can honestly say you were born an ass.)

Decans in this constella-

tion are: Ursa Minor, the lesser sheepfold. Shown as a bear in modern zodiacs. Ancient zodiacs pictured it as a sheepfold. This constellation contains 24 stars. The brightest star at the point of the tail is Al Ruccaba, which means 'the turned', or 'ridden upon'. Today it is known as Polaris. The second decan is Ursa Major, the greater sheepfold. Again modern zodiacs picture this as a bear. Ancient zodiacs pictured it as a larger or greater sheepfold. In ancient zodiacs no bear is found in the Chaldean, Egyptian, Persian, or Indian zodiacs.



- However, the Hebrew word for sheepfold sounded similar to the Arabic and Persian words for bear. There are 87 stars in this constellation.

Ancient star names have meanings of 'a herd or flock of animals', 'numbered', 'separate or small', and 'the lamb'. The last decan is Argo, the ship. Located outside the ecliptic it is shown as a large ship at harbor. This decan seems to refer to the safe return to harbor after a dangerous voyage to recover a lost treasure. Star names refer to: 'the possession of him who comes', 'the multitude or abundance', and 'released to travel'.



## ZODIAC TOUR... LEO

The last house of the zodiac is Leo, the Lion. Shown as a majestic, kingly, and noble lion. Shown in the zodiac, his feet are about to land on the head or neck of the serpent. In the ancient zodiacs of Denderah, Esneh, and India it is shown as a lion. Bright stars have names meaning; 'heart of the lion', 'treading under foot', 'the judge who comes', 'the exaltation', and 'the punishing or tearing of the lion'.

Decans in this sign are: Hydra, the Serpent—a serpent stretching itself along the right third of the heavenly skies, outside the ecliptic, its head beneath the feet of the lion. Star names have meanings of: 'the separated or put away', 'the abhorred', and 'the piercing of the deceiver'.

The second decan is: Crater, the cup—A cup sitting on the back of the serpent. This decan has 13 stars. An interesting note: Two of the stars in the bottom of the cup are shared by Hydra the serpent. The third de-



can is Corvus, the raven—A raven resting on the back of the serpent. There are nine stars in this decan. Some of the names mean: 'joining together', 'the raven', and 'the raven tearing to pieces'.

This brings us full circle. I hope you have enjoyed this journey around the zodiac and read what I believe the zodiac truthfully reveals and not just

some interesting myths we have heard.

### New Book from Geoffrey Landis Hi,

A quick note to let people know that I now have a collection of short stories, Impact Parameter (and other quantum realities).

Information is at the Golden Gryphon page, <http://www.goldengryphon.com/ip-frame.html>

It should be at bookstores. It's also available, of course, from Amazon.com <<http://www.amazon.com/exec/obidos/ASIN/1930846061/geoffrandis>>

Clips from reviews are on my web page: [http://www.sff.net/people/geoffrey.landis/impact\\_reviews.html](http://www.sff.net/people/geoffrey.landis/impact_reviews.html). And, if any of you are interested, the paperback of Mars Crossing is also hitting the shelves this month.

Geoffrey A. Landis

## JEWELS

If jewels of the earth  
are the rich mans pleasure  
Then the stars in the heavens  
are the poor mans treasure  
They are there  
for all of us to share  
And there are no two  
that are an exacting pair

Shining down  
from a darkened sky  
From light years away  
to my eye  
The night sky  
is where I will spend my time  
On a lonely, cold night  
All is mine

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## MISSED METEORS By Frank Koby

I MISSED it! Yes, I, the president of the astronomy club, missed probably the most spectacular meteor shower with in the last 15-25 years or the next few years. That Sunday morning in our Sunday school class the discussion turned to the meteor shower the night before. Several people said they got up and went outside their homes and saw the meteor shower. (They all said it was spectacular.) When it was my turn, I said I missed it because I slept through it. I said it was awful sad the president of the astronomy club missed the shower.

Actually, the reason

(excuse?) was on the Friday before I worked from 10:30 Friday morning until 3:00 AM Saturday. I got about four hours sleep on Saturday morning. I went to work at 1:30 PM until 11:30 PM Saturday night. I also did not wear a jacket to work that day and the temperature was in the low 50's. When my shift was over I thought about coming to the observatory, but because: a) I was very tired, getting about 4 hours sleep in two days; b) the temperature was in the 50's and I did not have a jacket with me at work; c) based on past forecasts of spectacular meteor showers that fizzled and thinking this would be a repeat fizzle, I MISSED it! (By the way, that Sunday morning it was foggy where I live.)



## WHAT IS AN IRIDIUM FLARE?

By Jay Svitko

### Q. What is an Iridium flare?

A. An Iridium flare is caused by the sun being reflected from one of the three main mission antennae (MMA) of an Iridium satellite. The MMAs are flat, highly polished aluminium surfaces, and when the angles are just right, they can reflect the sun just like a mirror. There are over 80 of these communications satellites in orbit, and they are operated by the Iridium LLC Consortium.

In December 2000, Iridium Satellite LLC acquired the operating assets of Iridium LLC including the satellite constellation, the terrestrial network, Iridium real property and intellectual capital. Headed by aviation industry veteran Dan Colussy, and funded by a group of private investors, Iridium Satellite LLC has essentially no debt and monthly operating charges that are one-tenth the cost of the previous Iridium. Through its own gateway in Hawaii, the U.S. Department of Defense relies on Iridium for global communications capabilities.

The Iridium Satellite System is the only provider of truly global, truly mobile satellite voice and data solutions with complete coverage of the Earth (including oceans, airways and Polar regions). Through a constellation of 66 low-earth orbiting (LEO) satellites operated by Boeing, Iridium delivers essential communications services to and from remote areas where terrestrial communications are not available. The service is ideally suited for industrial applications such as heavy construction, defense/military, emergency services, maritime, mining, forestry, oil and gas and aviation. Iridium currently provides services to the United States Department of Defense and launched commercial

service in March 2001.. The company has operations in Leesburg, Virginia where the Satellite Network Operations Center is located, and gateway facilities in Tempe, Arizona and Oahu, Hawaii.

The Iridium System is a satellite-based, wireless personal communications network providing a robust suite of voice features to virtually any destination anywhere on earth. The Iridium system is comprised of three principal components: the satellite network, the ground network and the Iridium subscriber products including phones and pagers. The design of the Iridium network allows voice and data to be routed virtually anywhere in the world. Voice and data calls are relayed from one satellite to another until they reach the satellite above the Iridium Subscriber Unit (handset) and the signal is relayed back to Earth.

The Iridium constellation consists of 66 operational satellites and seven spares orbiting in a constellation of six polar planes. Each plane has 11 mission satellites performing as nodes in the telephony network. The seven additional satellites orbit as spares ready to replace any unserviceable satellite. This constellation ensures that every region on the globe is covered by at least one satellite at all times. The satellites are in a near-polar orbit at an altitude of 485 miles (780 km). They circle the earth once every 100 minutes traveling at a rate of 16,832 miles per hour. Each satellite is cross-linked to four other satellites; two satellites in the same orbital plane and two in an adjacent plane. The ground network is comprised of the System Control Segment and telephony gateways used to connect into the terrestrial telephone system. The System Control Segment is the central management component for the Iridium system. It provides global operational support and control services for the satellite

constellation, delivers satellite tracking data to the gateways, and performs the termination control function of messaging services. The System Control Segment consists of three main components: four Telemetry Tracking and Control sites, the Operational Support Network, and the Satellite Network Operation Center. The primary linkage between the System Control Segment, the satellites, and the gateways is via K-Band feeder links and cross-links throughout the satellite constellation.

### Enhanced Mobile Satellite Services (EMSS)

EMSS is an emerging technology with capability to support low rate voice and data services from a mobile, lightweight terminal. EMSS services will be commercially provided with a few modifications necessary to allow for unique DoD features, such as end-to-end encryption and protection of sensitive user information. DoD has established a dedicated Government EMSS gateway in Wahiawa, Hawaii for government use through the Defense Switched Network (DSN). Through this gateway, EMSS subscribers will have direct connection into Defense Information Systems Network (DISN), which is capable of providing secure services, in addition to non-secure access to commercial telephone services. In addition, a commercially available user terminal will support secure communications by adding a removable National Security Agency (NSA) approved Type I Communications Security (COMSEC) sleeve which fits onto the commercial user terminal. On 05 December 2000, a contract was awarded to Iridium Satellite LLC for two years of unlimited satellite airtime. Additional contracts awarded or in progress include: Customer Care, Switch Maintenance, Equipment Provisioning and DoD Gateway Operations.