



# The Night Sky

The Newsletter of  
The Astronomy Club of Akron

www.acaoh.org

Volume 34 Number 7

July 2012

**SUMMER BREAK! NO MEETING AT KIWANIS THIS MONTH.**

## The President's Column

By Gary Smith

All amateur astronomers are very fortunate to have two of our favorite planets, Mars and Saturn in the evening sky. The planet Saturn is known from ancient times and predates recorded history. If for the moment we can set Jupiter aside it will be easier to appreciate the grandeur of the gas giant Saturn. Saturn is the 6th planet from the Sun and the 2nd largest planet in the solar system. Its diameter is roughly nine times that of Earth.

The era of modern observation of Saturn began with Galileo and his telescope in 1610. Saturn's appearance confused Galileo because of the limited optical quality of his telescope. Saturn appeared as an object with "ears". These "ears" were of course the rings of Saturn. The picture became clearer in 1659 when Christian Huygens proposed that Saturn was a globe surrounded by a solid ring which did not touch the planetary disk. James Maxwell in 1856 made a contribution with his proposal that the rings were not solid, but composed of countless individual small objects. Saturn was known as the only planet with a ring (or rings) until 1977 when a faint ring system was detected around Uranus.



**Can you guess which of these stars is a quasar over 2.4 billion light years away? (See page 6 for the answer.) Quasar 3C 273 by Jason Shinn, ACA publications secretary. Canon Digital Rebel XT, Meade LXD-55 6 inch refractor. Multiple 30 second exposures at prime focus, ISO 1600.**

Saturn's mass is approximately 95 times that of Earth. It is theorized to have a rocky core surrounded by layers of metallic hydrogen, liquid hydrogen, and liquid helium. The metallic hydrogen is significant because it is responsible for Saturn's magnetic field, which is somewhat weaker than Earth's. Saturn is the least dense planet with an average density of only 70% of water. If it were

placed in an imaginary immense swimming pool, it would float.

The surface features of Saturn are comparable to Jupiter. Firstly neither Jupiter or Saturn have a "surface" that is comparable to the four terrestrial planets. What appears as a "surface" on Saturn is a point in the atmosphere where the gases are thick enough to  
(con't page 4)

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Lou Poda

## May Treasurer's Report

By Glenn Cameron

6/1/2012 Through 6/30/2012

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Checking Beginning Balance	\$3,908.33
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### Income

Dues	250.00
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Donations	300.00
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Magazine Subscriptions	34.00
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<b>Total Income</b>	<b>\$584.00</b>
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### Expenses

<b>Total Expenses</b>	<b>\$0.00</b>
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Income Less Expenses	\$584.00
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Checking Ending Balance	\$4,492.33
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Savings Opening Balance	\$6,434.94
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Earned Interest	0.26
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Savings Closing Balance	\$6,435.20
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Petty Cash	50.00
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Savings	6,435.20
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Checking	4,492.33
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<b>Grand Total</b>	<b>\$10,977.53</b>
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Article by Glenn Cameron  
ACA Treasurer.

# SWAP & SHOP



**For sale:**

## Orion SkyView Deluxe EQ Mount

- Orion AccuTrack SVD RA Drive
- Polar Finder Scope
- Losmandy Adapter Plate
- OPT Vixen Style Dovetail Mount Adapter

**Asking: \$150**

**Contact: Glenn Cameron**  
Phone: 330-737-1472  
Email: glenn@cameronclan.org



**For sale:**

## 15mm Ultra-Wide Angle Eyepiece

- 2 inch barrel
- FOV: 80°
- Eye Relief: 20mm

**Asking: \$40**

**Contact: Lew Snodgrass**  
Phone: 330-819-4886  
Phone: 330-867-4800  
Ask for Lew.  
Email: chrply@aol.com



**For sale:**

## Two Televue Radian 12mm Eyepieces

- Excellent condition.

**Asking: \$300 for both or \$170 each, cash.**

**Contact: Fred Fry**  
Email: riverfry@gmail.com



**For Sale:**

## 22mm Orion Epic ED-2 ED Eyepiece

## 25mm Orion Epic ED-2 ED Eyepiece

**Asking: \$45 each or \$85 both**

**Contact: Glenn Cameron**  
Phone: 330-737-1472  
Email: glenn@cameronclan.org



**For Sale:**

## Two Televue Radian 18mm Eyepieces

- Excellent condition.

**Asking: \$300 for both or \$170 each, cash.**

**Contact: Fred Fry**  
Email: riverfry@gmail.com



**For Sale:**

## Pentax XW 20mm Eyepiece

- Excellent condition.
- Small mark on 1.25" barrel.
- Always used in a compression clamp.

**Asking: \$250 cash.**

**Contact: Fred Fry**  
Email: riverfry@gmail.com

**The ACA wishes to welcome our newest member:**

**Willard Champagne**

**We look forward to seeing you at all Club functions!**

## President's Column (con't)

have an "optical density" that differs from its surroundings. Saturn's surface appears as subtle bands of clouds buffeted by high winds, some observed traveling around the planet at 1100 miles an hour.

The icy rings of Saturn and their origin is a vast topic. The original theories have been long since discarded and new ones have taken their place. Let it suffice to say the rings of Saturn are immensely beautiful and will entertain countless generations of stargazers in the millennia to come. The moons of Saturn now come to 62 and are at least as interesting as the planet itself.

The moons of Saturn range from a diameter of less than 1 Kilometer to 3200 miles. The Earth's Moon is 2158 miles in diameter and the planet Mercury is 3030 miles in diameter. The diameter of Titan is 3200 miles. It is the only natural satellite to have a dense atmosphere (which is approximately 45% Greater Than Earth's!). The study of Titan received a boost when on December 25, 2004 the European Huygens lander separated from the Cassini probe and landed on Titan January 14, 2005. This is one of the most significant achievements in the history of NASA and the European Space Agency. Many years later the Cassini probe is still a great success. It determined that Titan's atmosphere was mostly Nitrogen. It also has methane and ethane clouds along with nitrogen rich organic smog. It is also theorized that due to the low gravity and high atmospheric density on Titan, a human equipped with wing-like flapping accessories could fly! Titan

is also very cold with a temperature of minus 180 degrees Centigrade or +94 degrees Kelvin. Another interesting Saturnian moon is Enceladus. At only 310 miles in diameter it has an active geology. It apparently doesn't know that it is extremely far from the Sun and should be frozen solid. It has a widely varied landscape which is difficult to explain. A "cryo-volcano" has been seen venting water-vapor and complex hydrocarbons from its South Polar Region.

Each of Saturn's 62 moons is a "mini-world" of its own. Thanks largely to the most expensive space probe ever (the Cassini-Huygens probe), we now have thousands of images available of Saturn, the rings of Saturn, and many of Saturn's Moons. The study and observation of the Saturn system can be very interesting and richly rewarding.

*Article by Gary Smith,  
ACA President.*

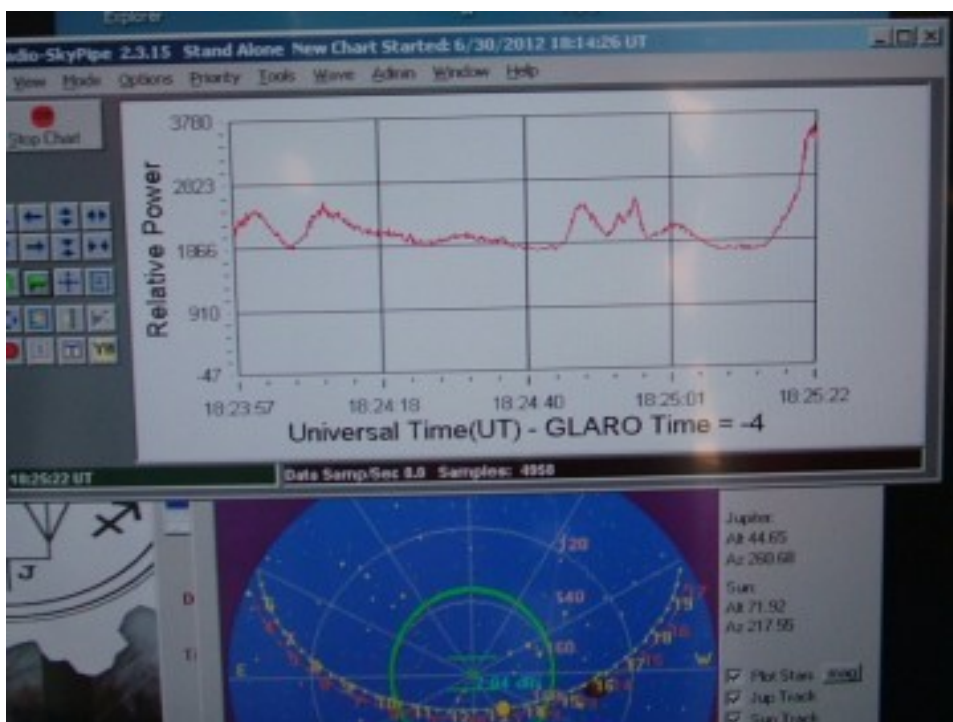
## Observatory Report

By Ron Kalinoski



Our June 30th solar party was graced by cloudless skies and good public turnout. Debbie Crenshaw volunteered to grill sausage and beef brats for the group and did a wonderful job. She's

quite a cook! Three radio telescopes and three optical telescopes were setup for solar observations. Jim Watson's setup consisted of a dish antenna and Yagi antenna both mounted to an equatorial mount with a strip chart recorder displaying the solar radio signals of each. Jason Shinn setup a twin dipole antenna and a large monitor for the public to view the solar bursts. We were lucky to have a very active sun during the event. Observing in the optical spectrum was Glenn Cameron using his new 80mm refractor fitted with a



**View of display screen connected to Jason Shinn's twin di-pole antenna recording solar radio bursts.**

Herschel wedge. Rick Burke was working with a 60mm hydrogen alpha telescope and I setup a C5 with light

white filter to complete the arrangement. This year we decided to drop the lunar observing from the

event. This decision allowed us to start earlier, placing the sun higher in the sky and eliminated the waiting period between solar and lunar observing. Our presentations for the event also changed. Instead of a formal presentation on the Sun and Moon, Jason Shinn gave a hands-on talk on how the twin dipole array functioned with real-time graphical representation of solar. Jim Watson gave a hands-on presentation explaining how the radio dish antenna and Yagi antenna operated. An interesting observation was made between the three radio telescope systems. It was noticed the three radio telescopes did not record solar bursts at the same time. We believe this is because the telescopes were operating at different frequencies; each telescope picking up signals from a different stage of the solar outburst. Rick Burke tried to make a correlation between activity he saw at hydrogen alpha wavelength and solar burst recorded by Jason's array. No definite correlation was made, but the observations were intriguing.

On June 18th, ACA held an outreach program at Brookdale Nursing Home. We held a similar event two months previous and were asked to return for another presentation. The talk was titled



**Jim Watson and some solar party attendees watch the strip recorder as a massive solar outburst is recorded.**

*Motions of the Universe.* We discussed many of the motions interlaced throughout the Universe covering Earth's rotation, wobble, 19-year nutation, revolution of the Earth around the Sun, the Sun's orbit around the center of our galaxy, and the motion of the galaxies as the Universe expands. We also talked about the Anasazi Indians' understanding of the motions of the Moon and Sun and

how they constructed a solar and lunar observatory to record solstices, equinoxes, and the 19-year cycle of the Moon. Thanks to Lou Poda for his support at this event.

*Article by Ron Kalinoski,  
ACA Observatory Director.*

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## **- PUBLISH YOUR ARTICLES AND IMAGES -**

**THE NIGHT SKY NEWSLETTER IS LOOKING TO PUBLISH YOUR ARTICLES! SHARE YOUR THOUGHTS, EXPERIENCES, STORIES, OPINIONS, LATEST ASTRO-IMAGES, AND ADVICE WITH YOUR FELLOW AMATEUR ASTRONOMERS.**

**ARTICLES MUST BE SUBMITTED BY THE SIXTH OF EACH MONTH. ARTICLES MUST BE RELEVANT TO OUR FORUM. ALL TEXT FILES SHOULD BE SAVED IN PLAIN .txt OR .rtf FORMAT TO MINIMIZE IMPORT PROBLEMS. ALL IMAGES MUST BE SAVED IN .jpg FORMAT. SUBMIT YOUR ARTICLES VIA E-MAIL TO:**

[truemartian@aol.com](mailto:truemartian@aol.com)

# NEW IMAGES





Which star is really a quasar located 2.4 billion light years away?



by Jason Shinn

THE ASTRONOMY CLUB OF AKRON

# July 2012 ACTIVITIES CALENDAR

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
1 Mercury at greatest elongation at 2h UT. Moon at perigee (closest) at 18h UT.	2 Full Moon 18:51 UT 	3	4	5 Earth at Aphelion (farthest) at 4h UT.	6	7 ACA OBSERVATORY PUBLIC EVENT 09:00p
8	9	10	11 Last Quarter 1:48 UT 	12	13 Moon at apogee (farthest) at 17h UT.	14 ACA OBSERVATORY PUBLIC EVENT 09:00p
15	16	17	18 11	19 New Moon 4:23 UT 	20	21 ACA OBSERVATORY PUBLIC EVENT 09:00p
22	23	24	25	26 First Quarter 8:56 UT 	27	28
29 Moon at perigee (closest) at 8h UT.	30	31				

# *The Night Sky*

*Newsletter of the Astronomy Club of Akron*

c/o Jason Shinn, Editor  
1025C Hemlock Hills Dr.  
Akron, OH 44313

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**The Astronomy Club of Akron**  
c/o Glenn Cameron  
8019 Glendevan St. NW  
Massillon, OH 44646-9018

Yes! I want to become a member of the Astronomy Club of Akron

[www.acaoh.org](http://www.acaoh.org)

(PLEASE PRINT)

NAME: \_\_\_\_\_ PHONE: \_\_\_\_\_

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CITY: \_\_\_\_\_ STATE: \_\_\_\_\_ ZIP: \_\_\_\_\_

EMAIL ADDRESS: \_\_\_\_\_

**Astronomy Club of Akron** annual memberships renew in the month of May.

ADULT (ages 18 and older) \_\_\_\$30.00

JUNIOR (ages 12 to 17) \_\_\_\_\_ \$15.00

ADDITIONAL ADULT member \_\_\_\$15.00

FAMILY MEMBERSHIP \_\_\_\_\_ \$40.00

Visit us on the Web at [www.acaoh.org](http://www.acaoh.org),