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PRESIDENT'S MESSAGE: CLUB UPDATE

Your club has some exciting plan in the works. Ten members recently attended the NCRAL conference as detailed in a separate article, and I know that I am excited about our preparations for when we host the meeting.

We continue to present materials from the NASA Night Sky Network, and our efforts have already paid off as we have received our second toolkit, Planetquest. This new toolkit highlights the search for planets like our own around distant stars and contains a variety of activities and presen-

tation materials that will assist us in improving our public outreach efforts.

We have many activities planned and a lot of work to do so we need you help and your support. There are many way you can be involved, whether it is by joining us at our observing events, attending a board meeting or by helping us to set up additional outreach efforts at your local church, school or other clubs. This is your club so come out and join in.

2008 NCRAL MEETING REPORT

The Northern Cross Science Foundation (<http://www.ncsf.info/>) hosted this year's NCRAL meeting on April 18/19 at the Lakeview Conference Center in Port Washington, WI. That's the North Central Region of the Astronomical League.

We had excellent representation at the meeting with ten TCAA members attending including William Carney, Lee Green, Dan Miller, Jean Memken and Michael Rogers along with Benjamin, Sarah and Jonathan, Carl Wenning and Duane Yockey.

Among the activities at the event were a trip to the observatory on Friday evening, astro-photo and astro-trivia contests, and over 30 door prizes including an 8" telescope. Our members did very well in the drawing with Dan winning the Southern Real Skies CD set, Duane receiving a nice book and Jonathan winning a Tasco telescope!

The activities began with a trip to the Jim and Gwen Plunkett Observatory at Huntington Beach State Park. The observatory was opened in 2007 after much work by the NCSF members and features a roll-off roof for their 25' x 15' building which housed their 20-inch Panarusky Telescope, as shown in the photo (next page).

The NCRAL business meeting was held at 3PM. During the meeting, the TCAA announced the tentative date for the 2010 meeting as April 16/17. Our theme is Generations – a focus on the past, present and future of astronomy. We passed out a preliminary announcement to the assembled members.

The International Dark-Sky Association held a meeting at 4:30. Michael, Jean and Lee attended where a number of issues were discussed about approaches to advocating light conservation efforts.



There were 5 speakers that presented on a variety of subjects. While Jack "Keep Looking Up" Horkeimer was originally scheduled to address the group, he was unable to attend but sent us a special video message.

Harold Schenk is Professor of Astronomy at the University of Wisconsin at Sheboygan. Harold discussed the process he used in looking for the "Mysterious Comet SW-1" using the Hubble Space Telescope. He described several classes of comets and the challenges of obtaining quality measurements in pursuit of scientific theories.

Bob Manske is past president of the both the Madison and Milwaukee Astronomical Societies and is a longtime member of the American Association of Variable Star Observers (AAVSO). Bob gave a fascinating talk about observing variable stars, the techniques used, how the data is interpreted by the AAVSO and the types of variable stars being

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2008 NCRAL MEETING REPORT (CONT.)

(Continued from page 1)

measured.

Michael Bakick is the Senior Editor of Astronomy Magazine and is the author of several books. His talk was "How The Constellations Came To Be" and discussed the history of the constellations, early star atlases and a variety of related information.

Dave Oesper is a former board member of the International Dark Sky Association. He discussed "Dark Sky Communities" which described light conservation issues and touched upon several new housing alternatives targeting astronomy enthusiasts.

The keynote speech was given by Dave Eicher, the Editor-in-Chief of Astronomy Magazine. His talk, "Behind the Scenes at Astronomy Magazine" gave a rare look at the history of commercial astronomy publication, their delightful magazine and at the publishing

industry in general.

The 2009 meeting will be held in Cedar Rapids, Iowa, and will be hosted by the Cedar Amateur Astronomers on May 1 & 2. Of course, we will be hosting the meeting in 2010. More information can be found at www.ncral.net.



SCHEDULED MAY TCAA EVENTS

Mark your schedule now for the following May TCAA events. On Saturday, May 3rd, we have our third Public Observing Session for 2008. The subject matter of the presentation is *Telescopes: Eyes on the Universe*. The session begins with a talk at 8:30 p.m. and continues to 10:30 p.m. or later. The event will also feature a sky lecture and telescope viewing. The speaker for that evening will be Carl Wenning. The sky must be reasonably clear for this event to be held; it will be cancelled if the sky is overcast. Call Carl at 309-830-4085 before going out if you are uncertain about whether or not the session will be held.

On Thursday, May 8th, Carl Wenning will be hosting a private observing session for Marty Morris' 4th grade students from Clinton, about 50 of whom are expected to be in attendance. The session will be held at Weldon Springs State Recreation Area beginning at 8:00 p.m. The event will take place at the Union School Interpretive Center on the west side of the park. The focus will be on constellations. The session will begin with a PowerPoint presentation and move on to a laser-mediated sky lecture and telescope viewing if the sky is clear. If not, the event will still be held but will feature a constellation talk only with supplemental constellation-based activities. TCAAs are encouraged to contact Carl (wenning@phy.ilstu.edu or 309-830-4085) if they are willing to assist. Marty is a member of the TCAA.

The next members-only observing session will be held on Saturday, May 31st. This event will be co-hosted by Carl Wenning, Lee Green, William Carney, and Duane Yockey. It will feature telescope viewing with the aid of personal instruments and the SGO 12-inch telescope. Viewing begins at dusk.

NEW MEMBER PROFILE: DAVID HAHN

David Hahn has been an amateur astronomer for just about one year now. His interest in “all things space” was stimulated by the movie *Apollo 13*. He started his career in amateur astronomy using a 50mm Winchester spotting scope to view the Moon and Jupiter. Currently he has an Orion XT8 and XT12, along with an 80mm Williams Optics Zenithstar II.

As a new amateur astronomer, the TCAA is his first club though he has been active in online groups for well over a year. He has not received any formal education in astronomy and doesn't know much about the Astronomical League's observing awards programs, but he will soon find out.

David's main pleasure at this time is letting others get a peek at the heavens. As David noted, “I absolutely love showing other people the planets and hearing their gasps or laughter.” His earliest interest in astronomy developed as he watched a solar eclipse at the age of seven and being completely shocked.

With regards his goals as an amateur astronomer he noted, “I want to get as many other people hooked on astronomy as I am. I would eventually like to get into astrophotography when I make enough money.”

What are his thoughts about professional and amateur astronomy? “I think that professional astronomy has really allowed average people to experience what we see every time we go out. The Hubble Space telescope is one of the greatest achievements of the past decade in discovering our past.”

No matter what the temperature is, you can count on David being out observing. “Give me a clear sky and you are guaranteed to see me outside.”



HISTORY OF THE TCAA

Beginning with the article, “The Origin of the Twin City Amateur Astronomers” in the May 2007 issue of The OBSERVER, TCAA Historian Carl J. Wenning began chronicling the history of the club. He will continue this series, culminating with the 50th anniversary of the club in 2010.

Years of Reflection: Part B

1985-1989

Public education has always been and always will be a part of the TCAA. To illustrate the service rendered by the TCAA during the later half of the 1980s, consider the activities surrounding the appearance of Halley's Comet.

The first possible observation of Halley's Comet was made by Weldon Schuette on the evening of September 19, 1985. A confirming observation was made by Weldon on October 13. Darren Drake confirmed Weldon's “discovery.” Sharon MacDonald gave a public talk on Halley's Comet and the Bayeau tapestry; Jim Baker gave a talk at Westminster Village; and Mike McCall gave a presentation at the Bloomington Public Library.

William Carney and several other TCAAers made some of the first naked-eye observation of Halley's Comet on December 6. They were mentioned in the April 1986 edition of *Astronomy* magazine and were similarly recognized on the front cover of the February *Reflector* of the Astronomical League. During the autumn and winter of 1985-86 the club hosted numerous observing sessions. The two largest observing sessions were held at Comlara Park on January 10 and 11, 1986. On these two evenings more than 2,000 individuals viewed the comet through a variety of telescopes. Weldon Schuette and Carl Wenning had both independently created observers' guides for the return of Halley's Comet. Ayn VandenBrook, planetarium volunteer and later a club member, helped Carl Wenning present several hundred planetarium programs about the comet that brought planetarium attendance to an all time annual high of 27,000.

On February 25, 1986, Carolyn and Carl Wenning made the club's first naked-eye, post-perihelion observation of the comet. It was glimpsed over a sea of fog from an elevated railroad bed just south of Bloomington. The comet had a nuclear brightness of about third magnitude and a visible tail 3 degrees long. This observation fueled interest and several parties traveled south to get better views of the comet's

(Continued on page 7)

MAY SKY GUIDE

01	The Moon passes 3° north of Uranus, 6 P.M.	
04	Eta Aquarid meteor shower peaks	
06	The Moon passes 3° north of Mercury, 5 P.M.	
10	Mercury passes 8° north of Aldebaran, 1 A.M.	
	The Moon passes 0.2° north of Mars, 9 A.M.	
12	The Moon passes 1.2° south of Regulus, 2 P.M.	
	The Moon passes 3° south of Saturn, 7 P.M.	
13	Mercury is at greatest eastern elongation (22°),	
20	The Moon passes 0.2° south of Antares, 6 P.M.	
24	The Moon passes 2° south of Jupiter, 6 A.M.	
26	The Moon passes 0.6° north of Neptune, 10 P.M.	
29	The Moon passes 4° north of Uranus, 4 A.M.	

APRIL OBSERVERS' LOG

On April 3rd, William Carney decided to go out to SGNC for a bit of observing. He reported that Mark Cabaj was at SGNC with his students for constellation study. William used the SGO to show about eight of them M42 before they left. William stayed out until he got cold and tired. While there, he observed 42 Herschel objects giving him a total of 156 total thus far. As the month progressed, William observed several more comets as part of his observing program. He reported that with a larger telescope (e.g., the SGO 12-inch telescope) several comets are visible in the evening sky right now. He recently observed all four of the following comets with the 12" at SGO using *Cartes du Ciel* with current Internet data elements for their location: C/2007 B2 Skiff at mag 12.9, C/2007 W1 Boatini at mag 9.0, C/2006 Q1 McNaught at mag 11.3, and C/2008 C1 Chen Gao at mag 12.0. William notes, "Most are not much more than stellar with very faint coma. W1 Boatini is getting bigger and brighter and may achieve 5-6 magnitude later this summer."

The April 5th members-only observing session at SGNC was quite successful. Lee Green reported that, "It was a stellar night in several ways. The sky was clear and the temperature more spring like. The stars were shining brightly and observers all made progress on their observing programs. Fourteen people were there – 8 members and 6 guests. We had five telescopes set up and we saw some fantastic sights." In attendance were Dave Osenga, Paul Pouliot (who drove all the way down from Pontiac), Lee Green, William Carney, Carl Wenning, Dan Miller (along with Andrew and Bobbie, two Millikin University Physics students), and Andrew Morrison who brought along his wife's three aunts and grandmother from Iowa. John Werner made a cameo appearance around 11 p.m.

Observing at the MOOS that evening began shortly after 8 p.m. When Andrew arrived with the ladies at about 9 p.m., Carl regaled them with a sky lecture and star stories, and showed them a number of representative telescopic objects. Later, Carl observed an additional 13 Herschel objects; he has now reached 399

Herschel objects with #400 currently hidden by the glare of the sun. He won't be able to observe NGC 613 until mid July at the earliest and then only in the pre-dawn sky. Carl was also able to observe five additional objects of the northern zone of the Southern Sky Telescope Observing program. He hopes to finish this observing program that he began along with Duane Yockey this past February when they observed from Chile.

Dave noted that he was able to observe the following things that evening in this order: 8 deer, 3 satellites, 1 meteor, several other stargazers, 1 Stargazer!!, and 14 Messier objects. For his telescopic observations, he used his 1978 Edmund Science 8" reflector with the equatorial yoke mount. Paul helped Dave confirm several of the objects.

Lee continued working on his Messier observing program and found 20 of these objects "by hand." His total is now 24. William left around 10 p.m., Carl left at 11:30 p.m., and Paul and Lee departed somewhat later.

The April 12th public observing session was cancelled due to rain. Nonetheless, and in spite of our cancellation, three members (William, Duane, and Lee) showed up, and we reviewed the observatory with an eye toward seeing what repairs need to be accomplished this year. The observatory clearly had some leakage recently, and William pointed out where he had installed some weather strips and made others repairs. Surprisingly, seven members of the general public showed up in spite of the weather. Lee asked them to return next month.

The April 25th members-only observing session was held despite a milky sky, passing wisps of cirrus clouds, and an approaching cold front that would bring rain by next day. William Carney reported that he attended the session along with Lee Green, Brian Barling, Jim Williams and Debbie Schertz. There were a few periods of clearing through which they were able to observe some objects anyway. Most observers left about 11:45 p.m. by which time it had become nearly overcast.

MAY MOOS

The May MOOS was held on April 26. While the day was clear bright and sunny, the clouds started creeping in as night approached. Five members attended including Brian, William, Lee and new members Jim and Debbie Schertz. William prepared one of the loaner scopes that Jim and Debbie borrowed so they could do some observing on their own. Brian and Lee also set up so three scopes were used for some casual observing. The conditions slowly deteriorated from moderate to bad seeing conditions, and the light haze eventually became clouds. Everyone packed it in and departed around 11:45pm.

POS and MOOS COORDINATORS NEEDED

Coordinators are needed for most of the 2008 Public and Members-Only Observing Sessions at Sugar Grove Nature Center. Two coordinators per session are preferred. Please sign up if you are willing to host or co-host one of these Saturday sessions. See the POS brochure available through the TCAA website for details about times.

2008 Date	POS Topics	POS Coordinator(s)
June 7	A Big Dipper Full of Stars – Ursa Major	Lee Green
July 5	Mighty Hercules and His Treasure – M13	Duane Yockey
August 2	Black Hole Survival and Cygnus X-1	
September 6	Our Galaxy, Our Universe	
October 4	Andromeda and Her “Rock” – M31	

Members-Only Observing Sessions occur one week earlier than the above POS – on weekends nearest the full moon. Two coordinators (one of whom should be an SGNC key holder unless they have their own telescope they can bring along) are needed for all of these Saturday sessions. Please sign up with Carl Wenning (309-830-4085 or wenning@phy.ilstu.edu) if you are willing to coordinate one of these events.

2008 Date	MOOS Coordinator(s)
May 31	Carl, Lee, William, Duane
June 28	Carl, Lee, William, Duane
July 26	
August 30	
September 27	
October 25	

WATER TROUBLES AT SGO

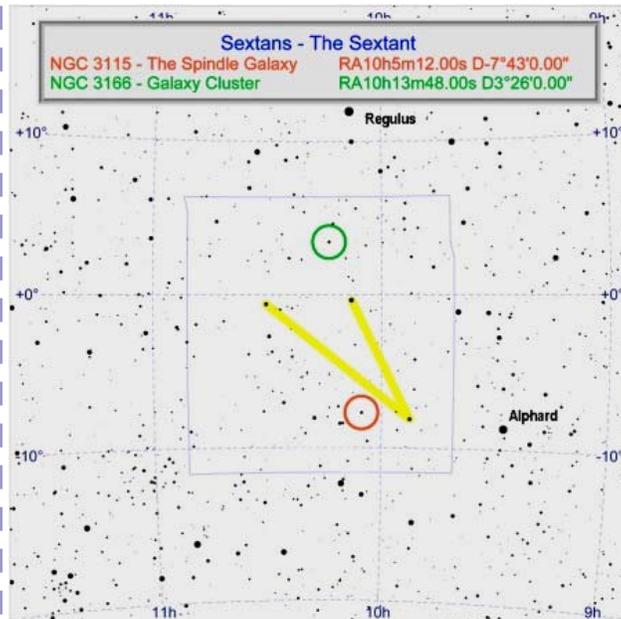
When Property Manager William Carney saw the rain coming from the east on Thursday, April 10th, he decided to visit SGO. William reported that there was about 1/8" of water on the two top floors of the observatory and that the ground floor was damp. Some of the water did appear to come from the bottom of the dome slot, according to William. He cleaned up the water then installed some silicone and weather stripping to the bottom area. William remarked, “This hopefully will stop the bottom at least from leaking. This was done before, but had weathered out. The top is another matter. The nature center does not have a large ladder, and we will have to borrow one from someone else to fix the top slot water problem.”

William then rotated the dome slot so that the back is pointed to the North. “Seems like just about every storm we have had recently in the last few month's water has blown in from the South and the East sides. So maybe the North is the best direction till fixed. I will check it about every day to see.

I did briefly talk to Angela and I will be setting up a date to talk to her in the coming weeks.”



CONSTELLATION OF THE MONTH: SEXTANS—THE SEXTANT



This constellation was first described by Johannes Hevelius, the Polish astronomer. It is said to recall a large device that he used in his observatory in Danzig. A sextant is a measuring device that allows the observer to determine the angle between objects to a high degree of accuracy.

Sextans straddles the celestial equator and is located between the constellations Hydra and Leo near the bright stars Alphard and Regulus. None of the major stars in Sextans have common names.

Astronomically, it is the 47th largest constellation covering 314 square degrees. It is the 86th brightest constellation (or the third from the dimmest) due to the fact that the brightest star in Sextans is a 4th magnitude star. The constellation is relatively difficult to see with the naked eye and only its proximity to Regulus and Alphard help to locate it in the night sky. The center of Sextans reaches opposition on Feb 20.

While there are few bright stars in Sextans, there are many galaxies visible. Prominent among these is the Spindle Galaxy (NGC 3115) which is lens-shaped with a bright, even central core and shines at the 9th magnitude. NGC 3165, 3166 and 3169 are three galaxies in close proximity.

STARGEEZER!

Reflections of an Aging Astronomer

The opinions expressed by the Stargeezer are entirely his own. They do not necessarily represent the opinions of the TCAA or any other of its members.

I guess that it's time to take the jacket off and get to work. Or perhaps I'm really slipping the jacket back on. You see, night observing sometimes can be cold work. Be that as it may, I want to share some reflections that I have had recently.

You know, I've now observed 399 of the 400 Herschel objects required to earn the AL's Herschel 400 award. (That last one is just killing me!) While the recognition and pin are certainly rewards enough for completing this two-year odyssey, recent work has made me aware of something very interesting. The work I refer to is the night last month when I observed 104 Herschel objects in just over two hours, nearly every one of them a galaxy.

That evening a strange realization came over me. I've always known that the sky is filled with billions and billions of galaxies, but little did I realize how empty space really is. The realization I had standing behind my eyepiece was this, "If I were to step outside the galaxy and look around, I would see nothing other than the LMC, SMC, M31 and possibly M33. All else would be a black void." Now think about that. We would be entirely enveloped in black were it not for the Milky Way and it's nearby companions. This realization started to make me feel very much alone.

When there is so little out there to see, one's thoughts turn in on oneself. I have pondered this apparent "abandonment" for quite a while now. Still, even surrounded by an apparent void, I think how wonderful is the very being of each and every human. The human body itself is considerably more complex than the workings of the universe as a whole, and this gives me reason to rejoice. Nonetheless, knowing what lays beyond the black envelope of deep space, this adds to my joy and awe. The words of the poet resound to high heavens in Psalm 148; I feel much the same way.

¹Praise the Lord! Praise the Lord from the heavens; praise him in the heights! ²Praise him, all his angels; praise him, all his host! ³Praise him, sun and moon; praise him, all you shining stars! ⁴Praise him, you highest heavens, and you waters above the heavens! ⁵Let them praise the name of the Lord, for he commanded and they were created. ⁶He established them for ever and ever; he fixed their bounds, which cannot be passed.



HISTORY OF THE TCAA (CONT.)

(Continued from page 3)

closest approach to Earth in March. Carolyn and Carl went to Louisiana, Jim and Sue Baker went to Arizona, and Weldon Schuette went to Florida.

In the wee morning hours of March 14 and with the assistance of Jim Baker, the club's oldest member, Aubrey Johnson, became a Comet Halley "Two Timer." He recalled seeing the comet in 1910 when 12 years of age. Aubrey had a chance to recount both of his observations of Halley on that evening when he and two other guests from Westminster Village in Bloomington were invited to share their recollections. Aubrey was later recognized and congratulated on this second observation with a special Comet Halley Two-Timer plaque.

In late March the TCAA began holding morning observing sessions for the general public at the Apostolic Christian Church just east of Bloomington. On March 22 some 200 people showed up at 4:00 a.m. to view the comet. Before long it would be time to say goodbye as the comet headed back out into the depths of the solar system to await the TCAA of 2061. In its wake it left the club with its largest membership ever – 89. The TCAA said "hello" to many new members as a result of Halley. The TCAA had to say "good bye" to others that left, as it were, with it.

Weldon Schuette, along with Bertha Kieviet, had been the heart and soul of the club since its co-founder, John Kieviet, had died. Weldon died quite unexpectedly on August 19, 1986. Weldon joined the TCAA in 1961 and drove twice a month from Gibson City to participate in club functions. He had served in every elected capacity in the club and held elected office continuously since 1971. He reinstated the TCAA *Observer* and was the newsletter editor from 1975 until his untimely death. He was a dedicated and able observer having obtained the Messier Certificate and having observed satellites thousands of times.

Weldon was interested in all sorts of space and astronomy activities. He was a part of every program that was hosted by the TCAA. Weldon was dearly loved, deeply respected, and truly revered by his fellow club members. In honor of Weldon and in recognition of his service, the TCAA created the G. Weldon Schuette Society of Outstanding Amateur Astronomers on January 17, 1987 – Weldon's birthday! Bertha Kieviet was inducted into the Society during the 1987 Annual Meeting in honor of her unceasing dedication and guidance of the club. Carl Wenning was to follow in 1988, and Sharon MacDonald was so honored in 1989. Donald Johnson was inducted at the 1990 Annual Meeting.

Sadness again touched the club during the autumn of 1989 when it was discovered that Ayne VandenBrook had died in the flower of youth. She was 24. Ayne had been a volunteer at the ISU Planetarium since her arrival at the University in 1983. Though completely blind in one eye and legally blind in the other, she was the match of any TCAA member at the telescope. She had obtained her Messier Certificate and was an inspiration to all who knew her.

During the latter part of the 1980s TCAAers made several significant observations some of which have been recounted above. Others include an observation of the Space Shuttle Challenger making a water dump on August 2, 1985. The Millers, Wennings, and Weldon Schuette observed the Space Shuttle looking like a comet or an airplane with its bright landing lights extending far out ahead. Nine members gathered to view the moon-Venus occultation on the morning of April 30, 1987, and to share breakfast a few hours later. The July 16, 1988, meeting was interrupted by an occultation of Regulus by the moon. The whole club watched. A host of club members gathered with the general public to view lunar and solar eclipses.

One amazing thing that resulted from the numerous observing activities was the acquisition of Messier certificates by TCAAers. In 1990 TCAAers held 2% of all the certificates awarded nationally. Not to be overlooked is the fact that the youngest member ever to earn the provisional Messier Certificate from the Astronomical League was Rebecca Wenning. She earned the certificate at only 11 years of age. Starting with a Friday club observing session at Sandy McNamara's house one autumn evening the year before, Rebecca observed the 70 required Messier objects by September 16, 1987 – a day before her 12th birthday. This was not at all unexpected for a youngster who at 5 years of age gave her first planetarium sky lecture to a public group at an evening public planetarium program!

During the autumn of 1986 Diamond Star Motors was erecting its Mitsubishi plant just west of Normal. Very concerned about outdoor lighting, Carl Wenning approached DSM and asked them to reconsider the use of their lighting. They did so! By November 1986 they had redesigned their storage and parking areas to include a smaller number of low-pressure sodium vapor lamps that had downward reflectors. They were delighted with the projected long-term electrical savings. This is just one of the capacities in which Carl has served the TCAA. He was recognized for his service at the Annual Meeting of 1988 at which time he received Lifelong Honorary Membership.

The membership of the TCAA traveled a fair amount as a group during this period. The following field trips took place: DAAC Jamboree (1984-89); Chicago Museum of Science and Industry, Steven J. Gould, May 1985; Henry Crown Space Center, September 1986; University of Illinois campus observatory, November 1986; Huntsville (AL) Space and Rocket Center, March 1987; Astronomy from Illinois Conference, Clyde Tombaugh, April 1988; and the U of I Radio Observatory, July 1989.

POWERFUL BLACK HOLE JET EXPLAINED

By Clara Moskowitz
Staff Writer
SPACE.com

While we may never know what it looks like inside a black hole, astronomers recently obtained one of the closest views yet. The sighting allowed scientists to confirm theories about how these giant cosmic sinkholes spew out jets of particles travelling at nearly the speed of light.

Ever since the first observations of these powerful jets, which are among the brightest objects seen in the universe, astronomers have wondered what causes the particles to accelerate to such great speeds. A leading hypothesis suggested the black hole's gigantic mass distorts space and time around it, twisting magnetic field lines into a coil that propels material outward.

Now researchers have observed a jet during a period of extreme outburst and found evidence that streams of particles wind a corkscrew path away from the black hole, as the leading hypothesis predicts.

"We got an unprecedented view of the inner portion of one of these jets and gained information that's very important to understanding how these tremendous particle accelerators work," said Boston University astronomer Alan Marscher, who led the research team. The results of the study are detailed in the April 24 issue of the journal *Nature*.

The team studied a galaxy called BL Lacertae (BL Lac), about 950 million light years from Earth, with a central black hole containing 200 million times the mass of our Sun. Since this supermassive black hole's jets are pointing nearly straight at us, it is called a blazar (a quasar is often thought to be the same as a blazar, except its jets are pointed away from us).

The new observations, taken by the National Science Foundation's Very Long Baseline Array (VLBA) radio telescope, along with NASA's Rossi X-ray Timing Explorer and a number of optical telescopes, show material moving outward along a spiral channel, as the scientists expected.

These data support the suggestion that twisted magnetic field lines are creating the jet plumes. Material in the center of the galaxy, such as nearby stars and gas, gets pulled in by the black hole's overwhelming gravity and forms a disk orbiting around the core (the material's inertia keeps it spiraling in a disk rather than falling straight into the black hole). The distorted magnetic field lines seem to pull charged particles off the disk and cause them to gush outward at nearly the speed of light.

"We knew that material was falling in to these regions, and we knew that there were outbursts coming out," said University of Michigan astronomer Hugh Aller, who worked on the new study. "What's really been a mystery was that we could see there were these really high-energy particles, but we didn't know how they were created, how they were accelerated. It turns out that the model matches the data. We can actually see the particles gaining velocity as they are accelerated along this magnetic field."

The astronomers also observed evidence of another phenomenon predicted by the leading hypothesis — that a flare would be produced when material spewing out in the jets hit a shock wave beyond the core of the black hole.

"That behavior is exactly what we saw," Marscher said.

DONATIONS/PLEDGES SOUGHT TO SUPPORT PURCHASES

At the TCAA Board of Directors meeting on March 25th, the long-standing request to make equipment purchases to support the education/public outreach activities of the club was once again considered. It was agreed that the purchases would be made, but without drawing down the treasury balances which need to be at the \$5,000+ level to support the 2010 NCRAL meeting if necessary. Large annual payments are already coming that will draw down the balance by several hundred dollars – liability insurance, Abrams Sky Calendars, and Astronomical League dues.

It was agreed that the club should purchase a low-cost laptop PC computer, a video projector, and a 20mW or 30mW hand-held green laser pointer. It was further agreed that a fund raising campaign would be conducted to generate the approximately \$1,500 needed to make these purchases. One club member, who wishes to remain anonymous, immediately pledged up to \$400 for purchase of the laptop computer.

If members are willing to contribute to this equipment fund, please send your pledge or contribution to Treasurer Duane Yockey at 508 Normal Avenue, Normal, IL 61761. The TCAA is a federally recognized 501(c)(3) educational not-for-profit organization. All donations are fully tax-deductible.

TCAA Treasurer's Report – April 2008

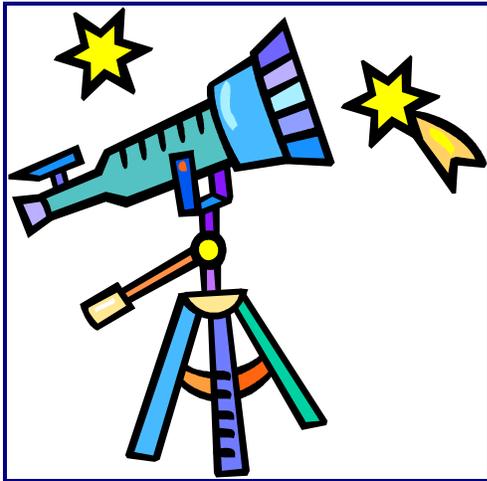
OPERATING FUND BALANCE – March 31, 2008 -	\$2,760.11
<u>Income</u>	
Terry Lee Wright (dues renewal) -	\$ 40.00
<u>Expenses</u>	
LYB Inc. (March Observer) -	\$ 14.35
LYB Inc. (April Observer) -	\$ 14.76
Carl Wenning (P.O.S. Brochures) -	\$ 50.70
Carl Wenning (Marian Yockey flowers) -	\$ 47.81
Grinnell Mutual (Liab. Insurance) -	\$ 139.00
OPERATING FUND BALANCE – April 30, 2008 -	\$2,533.49
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OBSERVATORY FUND BALANCE – March 31, 2008 -	\$1,943.04
<u>Income</u>	
Interest (1 st quarter) -	\$ 1.65
<u>Expenses</u>	
None -	\$ 0.00
OBSERVATORY FUND BALANCE – April 30, 2008 -	\$1,944.69
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TOTAL TCAA FUNDS – April 30, 2008 -	\$4,478.18

Respectfully submitted,
L. Duane Yockey, Treasurer

Sugar Grove Observatory

Listing of Official Keyholders (Paid \$10 deposit/\$5 renewal)

Duane Yockey (renewed through 2008)
Michael Rogers (renewed through 2008)
William Carney (renewed through 2008)
Carl Wenning (renewed through 2008)
Brian Barling (renewed through 2008)
Christopher Franklin (renewed through 2007)
David Osenga (renewed through 2008)
Gerry Schroeder (renewed through 2007)
Josh Lindsey (renewed through 2007)
Andrew Morrison (February 2008)
Dan Miller (renewed through 2008)
Lee Green (April 2007, renewed through 2008)



UPCOMING EVENTS

May 27—Board Meeting; 6:30 at
Lewis, Yockey & Brown, 505 N.
Main St., Bloomington
May 31—MOOS

The OBSERVER

Newletter of the TCAA, Inc.

Erin Estabrook, Editor
314 Covey Court
Normal, IL 61761

Are your dues due?

The Dues Blues?

If you see a check in the box above, it means your dues are due. To retain membership, please send your dues renewal to our esteemed Treasurer:

Duane Yockey
508 Normal Avenue
Normal, IL 61761

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on the web at
www.twincityamateurastronomers.org/