



The Night Sky

The Newsletter of
The Astronomy Club of Akron

www.acaoh.org

Volume 35 Number 10

October 2013

Next Meeting: Friday - October 25, 2013 - 8:00 PM - Kiwanis

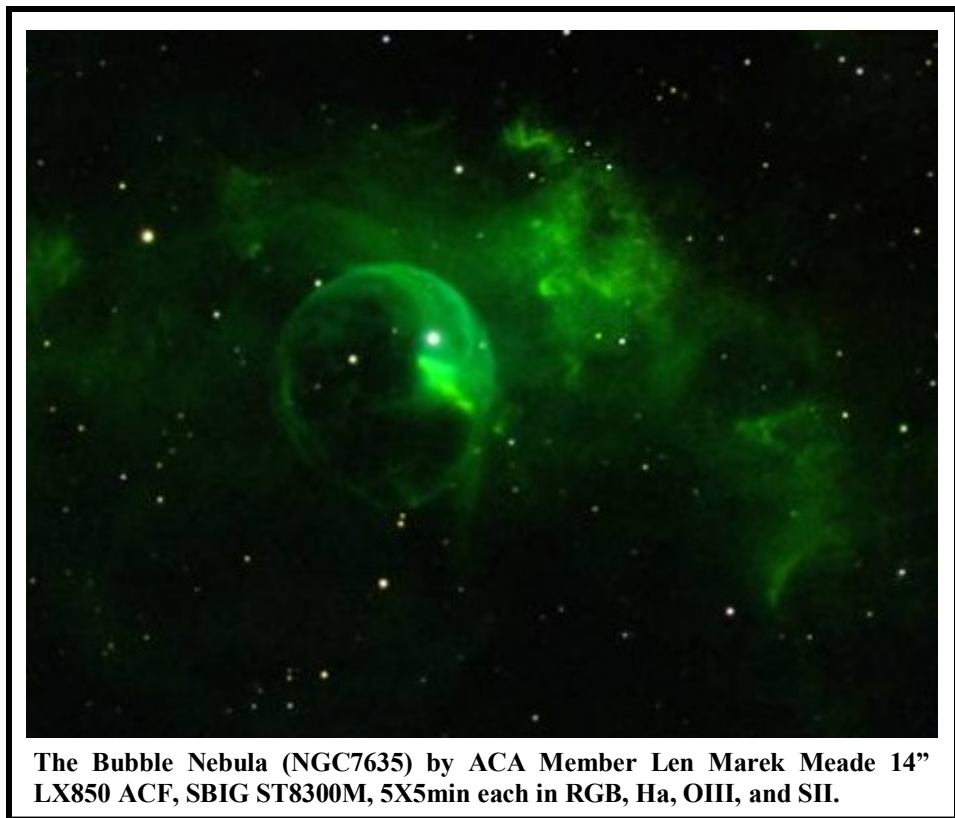
The President's Column

By Gary Smith

Hello to all comet hunters and stargazers. The month of October is of special significance. All the signs of Autumn are in full swing. The most unmistakable symptom is the drop in temperature we are experiencing after sunset and during the night. This is also signaling for the watchers of the night sky to take advantage of what clear nights and seasonal warmth are left to us.

The Comet ISON is still coming our way. On Oct.1st the comet came within 6.7 million miles of the planet Mars. The largest camera of the Mars Reconnaissance Orbiter (MRO) was slewed in Comet ISON's direction as it flew past, but those images are yet to be released. The headlines earlier this year read that Comet ISON could be the "comet of the century". I am anxiously awaiting the performance this comet will deliver on or around November 28th of this Year.

The Asterism that dominates our night sky is still the Summer Triangle. This asterism was discussed at length in the August President's Column. It is composed of Vega (alpha Lyrae) the 5th brightest star, Altair (alpha Aquilae) the 12th brightest star, and Deneb (alpha Cygni) the 19th brightest star in the sky. The importance of this magnificent



The Bubble Nebula (NGC7635) by ACA Member Len Marek Meade 14" LX850 ACF, SBIG ST8300M, 5X5min each in RGB, Ha, OIII, and SII.

triangle of stars is hard to overestimate. It always seems to be over our heads or in the process of climbing to its dominant position at the observer's zenith.

The month of October also presents what many consider to be the finest celestial object in the entire sky. If a poll were taken where participants were asked to name one object that would be left visible in our sky, while all other celestial objects were to be forever taken away, many would vote

that M31 to be that sole remaining object.

The Andromeda Galaxy (Messier 31) is also called the Great Andromeda Nebula. It is the most distant object that can be seen with the unaided eye. Its estimated distance is 2.5 million light years. An ancient Persian astronomer in the year 964 called the Andromeda Galaxy a "small cloud". Charles Messier cataloged it as M31 in 1764.

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September Treasurer's Report

By Glenn Cameron

9/1/2013 Through 9/30/2013

Checking Beginning Balance	\$2,121.06
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Income

0.00

Total Income	\$0.00
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Expenses

0.00

Total Expenses	\$0.00
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Income Less Expenses	\$0.00
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Checking Ending Balance	\$2,121.06
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Savings Beginning Balance	\$2,500.46
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Earned Interest	0.10
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Savings Ending Balance	\$2,500.56
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Petty Cash Beginning Balance	\$59.55
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0.00

Petty Cash Ending Balance	\$59.55
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Petty Cash	59.55
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Savings	2,500.56
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Checking	2,121.06
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Grand Total	\$4,681.17
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*Article by Glenn Cameron
ACA Treasurer.*

SWAP & SHOP



For Sale:

Pentax XW 20mm Eyepiece

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

Asking: \$220 (cash)

Contact: Fred Fry

Email: riverfry@gmail.com



For sale:

15mm Ultra-Wide Angle Eyepiece

Asking: \$40

Contact: Lew Snodgrass

Phone: 330-819-4886

Phone: 330-867-4800 Ask for Lew.

Email: chrply@aol.com



For sale:

Televue Radian 12 mm Eyepiece

- Excellent condition.

Asking: \$180 (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: \$40 each or \$70 for both

Contact: Glenn Cameron

Phone: 330-737-1472

Email: glenn@cameronclan.org



For Sale:

Televue Radian 18 mm Eyepiece

- Excellent condition.

Asking: \$180 (cash)

Contact: Fred Fry

Email: riverfry@gmail.com

Advertize in the Swap n Shop!

Send a picture of your item and relevant information to the newsletter editor:

truemartian@aol.com

Observatory Report

By Ron Kalinoski



We have been slowly working out the bugs of the new 16" observatory telescope and I wanted to update the membership of the telescope's performance. I'm

happy to report all mechanical bugs concerning 16" telescope visual back adaptation to 2" Van Slyke focuser have been resolved. Van Slyke Engineering had suffered major losses as a result of the Colorado Black Forest fire and we could not contact

them when we first tried to purchase the focuser converter ring. As a result, we contacted PreciseParts for the adapter. PreciseParts made two attempts to machine the adapter with no success. Another attempt at this point to contact Van Slyke Engineering was successful. Paul Van Slyke said he had three ACR43 converter rings in his shipping department that did not get destroyed by fire and a week later I threaded one of those rings onto our 16" telescope. At our October membership meeting, the members voted to purchase an Astro-Physics MaxBright Diagonal. This diagonal will replace the Meade diagonal that was purchased exclusively because it had a small

profile required to avoid interference with the 14" telescope forks; enabling the telescope to reach zenith. That problem doesn't exist with the 16" telescope. Okay, so now the back-end of the 16" telescope is as good as it gets: Van Slyke Focuser, Astro-Physics diagonal, & 31 mm Nagler eyepiece. Next on deck are drive issues. At times the altitude drive sounds very rough at the start of a slew from a starting position of approximately 40 degrees. Although not frequently, the azimuth drive experiences a "temporary drive halt" during the middle of a slew. It doesn't lose its alignment, but the event is easily noticed.

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The ACA wishes to welcome our newest members:

Terry Taylor

Laura Smiley

John Jenkins

We look forward to seeing you at all club functions!



Gary Kader, Director Burrell Memorial Observatory, Baldwin Wallace University spoke at the September ACA general membership meeting. Photo by ACA member Ann Ferrell.

Minutes from the September 27, 2013 General Membership Meeting

By Ann Ferrell

Gary Smith, our President, called the meeting to order at 8 p.m. He introduced our illustrious speaker, Gary Kader. ACA was recently honored and privileged to have Gary Kader from the Burrell Memorial Observatory delve into his wealth of knowledge and enlighten an eager audience. The fog surrounding The Big Bang Theory seemed to dissipate as Gary discussed multiple theories and facts as accepted by most physicists today. His audience, those well informed and many still in the fog, were mesmerized.

Observatory Report: Due to lights from on coming cars, Ron suggested that a row of 10-15 arborvitae trees be planted to help block some of this light. A motion was passed for the purchase of the trees. \$400 was allotted.

Ron proposed a need for a new diagonal; three suggestions were offered. Dave Jessie brought in 3 diagonals to the meeting and reviewed pros and cons of each. A. Max-Bright Astrophysics – one piece design, USA made, very tough mirror, \$320. B. Tele-view \$320 C. Baader quick lock – Zeiss mirror is hard to clean. \$290. The Tele View seemed to be the diagonal of choice.

Welcome New Members!

**Terry Taylor
Laura Smiley
John Jenkins**

WebMaster Report: Dave Jessie, our Web Maestro, stated we had over 10,000 legitimate hits to the website the world over. None from E.T. yet.

New Business: Mark Kochheiser made us aware of a possible grant from the Honor Project Trust. There are currently \$6.5 million available to 501c organizations within Ohio. Mark has registered ACA with the Trust (at no cost for registration). We

just need to submit an application for funds. He will continue to find out more about this Trust fund.

Camp Cheerful, an MDA organization located in Strongsville, Ohio needs help in rebuilding an 8” Meade. Marissa Fanady e-mailed Jim Watson with this request. Would this be feasible and could we complete the repairs by week of Father’s Day 2014. Camp Cheerful would like us to set up an astronomy display as well.

Call for Observations:

ISON and asteroid 433 Eros Comet passed visually close to each other. Imaged by an astronomer using SLOOH.

ISON will also pass in close proximity to Mars on October 1.

50/50 Raffle

\$38 was collected at the 50/50 raffle. Tony Scarpetti donated his portion to the club. Thank you Tony!

*Article by Ann Ferrell,
Assistant Secretary/Treasurer*

Observatory Con't

I plan to decrease the maximum slew rate by a few percent and see if the anomalies still exist. Other solutions are not so easy to implement. The azimuth drive also sounds a single sharp click as it slews through North position. I recorded the sound and sent the recording to John Crilly who forwarded the recording to Meade. Meade reports the click sound to be normal; claiming the worm spring is finding its position at that point. Honestly, I'm skeptical about that explanation. I never heard any

other Meade drive make that sharp click sound. The sound does not appear to be a problematic gear tooth as the sound seems to be superimposed on the normal noise the azimuth drive makes while slewing. The telescope also experiences tracking errors and cannot accurately find some planets (although the telescope does a good job of finding deep sky objects and holds its alignment very well). The tracking errors may be resolved by Meade's recommended "training of drives". Optically, the telescope meets our expectations delivering views of deep

sky objects most members have never seen before. At our last star party we were able to just make out "ring structure" in Saturn Nebula (NGC7009). We also viewed a stunning image of Uranus as a greenish disk situated among field stars of varying magnitude. If you haven't taken a look through the new observatory telescope, please come out to our next impromptu star party and experience the night sky as never before.

*Article by Ron Kalinoski,
ACA Observatory Director.*

President's Column Con't

In 1785 the famous astronomer William Herschel noted a faint reddish hue at its core. As Herschel had one of the most powerful telescopes of his day, he was one of the few people that could see this. In 1864 William Huggins observed the spectrum of M31 and noticed it differed from a gaseous nebula. The spectra of M31 was quite similar to the spectrum of a star. This was evidence that M31 was stellar in nature.

In 1885 an important event took place in M31. A supernovae named S Andromedae appeared quite unexpectedly. Supernova were known objects and the estimated distances of the objects in the Universe were much smaller than accepted today. To have credited S Andromedae as being a bonafide supernova would have upset these accepted distances and placed M31 at a much greater distance. So S Andromedae was downsized to a common nova. This downsizing event was to be revisited in the future and become the focus of a great debate over the size and nature of our universe.

Another important clue was discovered in 1912 by astronomer Vesto Slipher at the Lowell Observatory in Flagstaff Arizona. He

noted that M31 was moving in a direction toward the sun at a speed of 190 miles per second. This was the largest speed of a celestial object yet known at that time.

The year 1920 was the year of the great debate between Heber Curtis and Harlow Shapley and M31 was a prominent object in this debate. Shapley argued that the entire universe was the Milky Way. All objects that could be seen with the existing telescopes were all located within the Milky Way Galaxy (or the Milky Way Universe as Shapley believed). Curtis said this was incorrect. This debate set the stage for the discovery made by the great astronomer Edwin Hubble. Arguments made by both Curtis and Shapley were convincing and those that wish to retain the accepted smaller cosmological distances would favor Shapley's theory.

Edwin Hubble made a vastly important discovery in 1925. Cepheid variable stars were a means of measuring stellar distances that was accepted by both sides of the Curtis-Shapley debate. Hubble discovered Cepheid variable stars in the Great Andromeda Nebula. Once the astronomers of the era accepted that Hubble's discovery of Cepheid variable stars in M31 was correct, the

debate was over. Heber Curtis was the winner. The distances of the universe are Immense. Much larger than Shapley had envisioned.

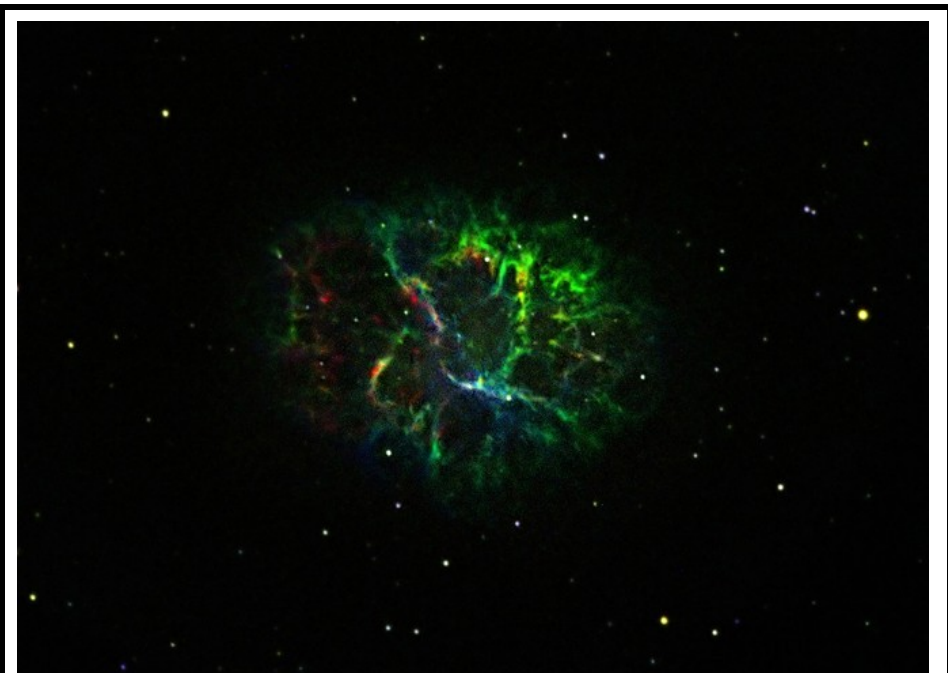
Galaxy M31 is a large astronomical object and is a favorite of astrophotographers. On a clear dark night it appears to be 3 degrees wide (6 lunar diameters). The fuzzy glow as seen with binoculars and small telescopes gives way to a magnificent image of a huge spiral galaxy with a bright core, bright arms, and dark dust lanes. The internet is a source for thousands of magnificent photos of M31 taken with various cameras, telescopes, and imaging equipment. At one time M31 was thought to be a twin of the Milky Way Galaxy. Today it is thought the two galaxies have a similar appearance but with significant differences.

The Coathanger asterism is a favorite collection of stars enjoyed by northern observers the world over. Also known as Collinder 399 or Brocchi's Cluster, it is a magnificent object. This was also discussed in the August 2013 President's Column. The six stars that form the straight line of the hanger are quite remarkable. The dimmest is a 7.1 magnitude and they appear to have been placed along a straight line by an immense cosmic ruler.

As the famous M13 globular cluster makes its way to the western horizon, another cluster arises to challenge it for supremacy. M15 is a 6.2 magnitude densely packed globular cluster in Pegasus. It is one of the oldest known globular clusters with an estimated age of 12 billion years. It is 33,600 light years distant and 175 light years in diameter. It contains over 1/10th million stars with some extraordinary components. It has variable stars, pulsars, one double neutron star system, and the first planetary nebula to be discovered in a globular cluster. Also, x-ray measurements give evidence for what may be a black hole in M15.

The star 51 Pegasi is of some notoriety. It is a star at 50.9 light years distance. It is the first sun-like star to have an extra-solar planet discovered. It is magnitude 5.49 and located between alpha and beta Pegasi. In Oct.1995 Swiss astronomers Mayor and Queloz announced the discovery of a planet in orbit around 51 Pegasi using a radial velocity method. The planets discovered in this era are characterized by being massive and being very close to the star that it orbits. The extra-solar planet that orbits 51 Pegasi is approximately half the mass of Jupiter and with an orbital radius of approx. 0.05 AU's. The estimated temperature at its surface is 1300 degrees Celsius. This would easily melt lead and even aluminum.

The discovery of extra-solar planets was once thought to be impossible. Visionary astronomers took on the challenge and today 992 planets in 756 planetary systems have been discovered. And today the Kepler spacecraft has discovered 134 confirmed exoplanets with a further 3277 unconfirmed planet candidates. Unfortunately two of the four important reaction wheels have failed



The Crab Nebula (M1) By ACA member Len Marak. Taken with narrowband H-alpha, OIII, SII. Each narrowband was taken for 5x5 minutes and organized in the Hubble Palette scheme with H-alpha as green, OIII as blue, and SII as red.

on Kepler and its usefulness is greatly reduced.

One of the most important results from the discovery of extra-solar planets is the need to reexamine our theories of planet formation. Until 1995 we only knew about the Sun and its nine (now eight) planets. The information about these newly discovered planets reveal masses, distances from its parent star, and temperatures that were thought to be impossible.

The appearance of the constellation Andromeda has brought a treat for those who like brightly colored double stars of which Alberio is the most famous. Gamma Andromedae (Almach) appears to be a bright golden yellow star next to a dimmer indigo blue star in smaller telescopes. The stars are closely spaced at 10 arcseconds compared to the 35 arcseconds of Alberio. Almach is approx. 350 light years distant. Newer

studies have discovered there are four stars in this system. Beta Andromedae (Mirach) is a bright (2.05 magnitude) red giant similar in appearance to Aldebaran.

The October Sky is filled with a mixture of wondrous delights and hidden marvels. I hope you will enjoy it as much as I do.

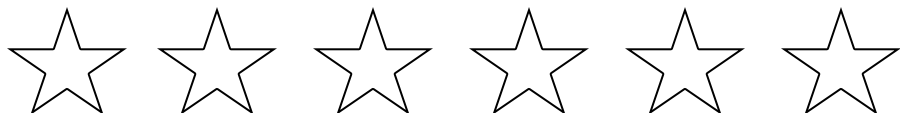
*Article by Gary Smith,
ACA President.*

**NEW IMAGES
By Rick Burke**

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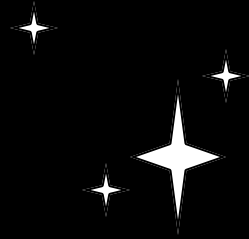
The image is of NGC 7331, four satellite galaxies (lower right), and Stephan's Quintet (upper left) in northern Pegasus.

The image was shot with my QSi 583 CCD camera cooled to -10 degrees C through my Tele Vue NP 127is. It is a total of 6 X 10 minute luminance exposures plus 4 each 8 minute RGB. Capture and processing with ImagesPlus and Photoshop CS7.



Star Struck

By Nicole Dollwet



M23

Was made expressly for me
God looked into my heart
And set it apart
To receive a dappled, dazzling wonder.

My narrow field of view
Creates me anew
The sheer desire to study you
Draws me to you
Like a star-crossed lover.

M23

You make my heart feel free
You take the Not To Be
Out of the To Be
Which is no longer a question for me.

The cartography of the sky
Makes me want to cry
But I choke back the emotion
So I don't cause a commotion
Amongst the by-standers standing by.



NEW IMAGES



by Rick Burke

THE ASTRONOMY CLUB OF AKRON NOVEMBER 2013 ACTIVITIES CALENDAR

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
AKRON, OH SUNRISE NOV 1 7:57AM EDT NOV 30 7:31AM EST SUNSET NOV 1 6:21PM EDT NOV 30 4:59PM EST					1 STOW ASTRONOMY PUBLIC EVENT (www.stowastronomy.org) Venus greatest elongation at 8h UT. (morning sky 47°)	2 ACA OBSERVATORY PUBLIC EVENT 6:30p
3 New Moon 12:50UT DAYLIGHT TIME ENDS AT 2:00AM. TOTAL SOLAR ECLIPSE. ENDS AT SUNRISE FOR OHIO.			6 Moon at perigee (closest) at 9h UT.	7	8 STOW ASTRONOMY PUBLIC EVENT (www.stowastronomy.org)	9
10 First Quarter 5:57UT	11	12	13	14	15	16
17 Full Moon 15:16UT LEONID METEOR SHOWER PEAKS.	18 Mercury greatest elongation at 3h UT. (evening sky 19°)	19	20	21	22 ACA MEMBERSHIP MEETING (KIWANIS) 8:00p Moon at apogee (farthest) 10h UT.	23
24	25 Last Quarter 19:28UT	26	27	28 HAPPY THANKSGIVING 	29	30

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Newsletter of the Astronomy Club of Akron

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

www.acaoh.org

(PLEASE PRINT)

NAME: _____ PHONE: _____

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CITY: _____ STATE: _____ ZIP: _____

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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

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