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S*T*A*R P.O. Box 863 Red Bank, NJ 07701 On the web at: http://www.starastronomy.org

Edited by: Ahmad & Hanna Jrad

October's Meeting

The

Newsletter Astronomy

The next meeting of S*T*A*R will be on Thursday, October 2. Our program will be "An Idea That Would Not Die" by Robert Zimmerman. All are welcome. The meeting will begin promptly at 8:00pm at the Monmouth Museum on the campus of Brookdale Community College.

Spectrogram

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Editor's Corner

Thanks to Gavin Warnes, Steve Fedor, & Randy Walton for contributing to this month's Spectrogram.

Reminder to pay membership dues \$25/individual, \$35/family. Donations are appreciated. Make payments to Paul Nadolny at the October meeting or mail a check payable to S*T*A*R Astronomy Society Inc to:

S*T*A*R Astronomy Society P.O. Box 863 Red Bank, NJ 07701

November Issue

Please send articles and contributions for the next Spectrogram by Friday, October 24. Please email to stargaze07@verizon.net.



The Heart (IC 1805) and Soul Nebulas Credit: Digitized Sky Survey, ESA/ESO/NASA **FITS Liberator**

Calendar

Sep 4, 2008 – "Past Saturn and 7 More Years to Pluto:" New Horizons Mission, Michael Lewis, NASA Solar System Ambassador

Oct 2. 2008 - " An Idea That Would Not Die" by Robert Zimmerman

Nov 6, 2008 - "TBD"

Dec 4, 2008 – "Low Energy Routes to the Moon and Beyond" by Dr. Edward Belbruno, Innovative Orbital Design, Inc., Princeton University

Jan 8, 2009 - "Celestial *Navigation*" by Justin Dimmell, Island School, Eleuthera. Bahamas

Feb 5. 2009 - "TBD"

Mar 5, 2009 - "Solar Telescopes" by Alan Traino of Lunt Solar Systems

Apr 2, 2009 – "TBD"

May 7, 2009 - "TBD"

Jun 4, 2009 - AGM



NGC 7008: The Fetus Nebula Credit & Copyright: Dietmar Hager, Don Goldman, Paul Mortfield

President's Corner

By Gavin Warnes

Hi all,

It was great to see so many people come to our first meeting in our new home at Monmouth Museum. I called the Museum Director and she was very happy with how we left the place so hopefully this is the beginning of a long lasting relationship.

Our next meeting should be special. I persuaded Bob Zimmerman, science journalist and author, to come up from DC to talk on the Hubble Space Telescope. Bob published a book on the Hubble this June with the Princeton University Press. The final servicing mission to the Hubble is scheduled to launch on October 14th so the timing is great. Please tell your friends – let's see if we can fill the main gallery to capacity! Copies of Bob's book, 'The Universe in a Mirror: The Saga of the Hubble Space Telescope and the Visionaries Who Built It' will be available for purchase at a 20% discount.

I'd like to thank Rob Nunn and Mike Lindner for helping out with the 'Introduction to Star Gazing' course we gave for the Colts Neck Recreation Department on September 20th. I managed to double book myself so Rob gave the 3 hour class to 15 people in the afternoon and Mike joined him for an observing session in the evening. Everything went very well. It's another great way we can spread the word about the club and cement our relationship with Colt's Neck. Thanks guys!

Talking of publicizing the club there are two events we need your help with. On Saturday October 18th the Monmouth Museum is holding a fund raiser to celebrate the 20th anniversary of the Becker children's wing (where the Blast Off! exhibit is currently located). They'd like us to bring some telescopes to set up outside. The event starts at 6.30pm. It's an 80's theme – no pressure to dress up unless you can grow a mullet or buy a Camaro by then.

On Friday October 24rd (cloud date Saturday October 25th) we are holding our annual star party at Bayonet Farm in Holmdel. The public and grade school children will arrive at 7.30pm, so we should set up from 6pm onwards. The organizers are arranging for the public to park away from the observing field and then escorting them to the telescopes. There is a very nice field there - good horizons and no glarey lights. We need to make sure we are all set up before the public shows up as it will be hard to drive to the observing field once they do. They are going to serve refreshments in one of the barns.

Bayonet Farm is on Middletown Road in Holmdel, just south of the intersection with Stilwell Road – about 5

minutes drive from exit 114 of the Parkway. It's on western side of the road and is adjacent to the old Bell Labs site. There is a long driveway up to the farm - it is easy to miss the turn so drive slowly.





Hopefully this will be a big event - we need as many volunteers as possible in case. Please contact Rich Gaynor via the discussion board or at richg870@aol.com if you can help out.

Keep looking up!

Gavin

September Meeting Minutes

By Steve Fedor

The September 2008 meeting of S*T*A*R Astronomy Club began at 8:08 pm on 9/4. It was attended by 46 members and non-members. President Gavin Warnes chaired the meeting and began by discussing the evening's agenda, urging all members to pay their dues and discussing upcoming speakers and events. At 8:19 the evening's presentation began. It was titled "Past Saturn and 7 More Years to Pluto: New Horizons" and was presented by Michael Dean Lewis who has been a NASA solar system ambassador since 1995.

The talk mainly discussed various NASA missions but also included such topics as the definition of planets and dwarf planets, the discovery of Pluto's moons, laser beam propulsion and Kuiper Belt objects. The lecture concluded at 9:30 at which time coffee break began.

The meeting resumed with Nancy McGuire presenting "Object of the Month." This month Nancy presented OC's in Oph such as NGC-6633 and IC-4465. The challenge object was NGC-7006, a faint globular cluster in Delphinius.

V.P. Dennis O'Leary then discussed "The Night Sky Network." This is a network of astronomy clubs bringing the wonders of the universe to the public. Dennis discussed the benefits of becoming a member and asked any interested parties to contact him.

Gavin Warnes then showed pictures from the flooded club picnic.

Dennis O'Leary then asked for a vote to allocate funds for repairing and upgrading the club's 13 inch and 8 inch scopes. It was unanimous in favor.

Rich Gaynor, our "Outreach" coordinator, discussed upcoming programs to introduce astronomy to the public.. The events are:

9/20 – "Intro to Stargazing" will be presented by Rob Nunn at the Bucks Mills site

10/18 – Monmouth Museum fund raiser. Details are on the club's web site

10/24 – Bayonet Farms Star Party. Details are on the club's web site

Rabdy Walton announced that ASTRA will again be having a group purchase of astronomy calendars & observing guides.

The 50/50 raffle was held. The prize was \$10. The winner was Rich Gaynor. The meeting was the adjourned.

Extreme Starburst

by Dr. Tony Phillips

A star is born. A star is born. A star is born.

Repeat that phrase 4000 times and you start to get an idea what life is like in distant galaxy J100054+023436.

Astronomers using NASA's Spitzer Space Telescope and ground-based observatories have found that the galaxy gives

birth to as many as 4000 stars a year. For comparison, in the same period of time the Milky Way produces only about 10. This makes J100054+023436 an extreme starburst galaxy.

"We call it the 'Baby Boom galaxy," says Peter Capak of NASA's Spitzer Science Center at the California Institute of Technology in Pasadena, CA. "It is undergoing a major baby boom, producing most of its stars all at once. If our human population was produced in a similar boom, then almost all people alive today would be the same age."

Capak is lead author of a paper entitled "Spectroscopic Confirmation of an Extreme Starburst at Redshift 4.547" detailing the discovery in the July 10th issue of Astrophysical Journal Letters.

The galaxy appears to be a merger, a "train wreck" of two or more galaxies crashing together. The crash is what produces the baby boom. Clouds of interstellar gas within the two galaxies press against one another and collapse to form stars, dozens to hundreds at a time.

This isn't the first time astronomers have witnessed a galaxy producing so many stars. "There are some other extreme starburst galaxies in the local universe," says Capek. But the Baby Boom galaxy is special because it is not local. It lies about 12.3 billion light years from Earth, which means we are seeing it as it was 12.3 billion years ago. The universe itself is no older than 14 billion years, so this galaxy is just a youngster (Capak likens it to a 6-year-old human) previously thought to be incapable of such rapid-fire star production.

The Baby Boom galaxy poses a challenge to the Hierarchical Model of galaxy evolution favored by many astronomers. According to the Hierarchical Model, galaxies grow by merging; Add two small galaxies together, and you get a bigger galaxy. In the early years of the universe, all galaxies were small, and they produced correspondingly small bursts of star formation when they merged. "Yet in J100054+023436, we see an extreme starburst. The merging galaxies must be pretty large."

Capak and colleagues are busy looking for more Baby Boomers "to see if this is a one-off case or a common occurrence." The theory of evolution of galaxies hangs in the balance.

Meanwhile... A star is born. A star is born. A star is born.

See more breathtaking Spitzer images at www.spitzer.caltech.edu/Media/mediaimages. Kids can play the new Spitzer "Sign Here!" game at spaceplace.nasa.gov/en/kids/spitzer/signs.

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



Caption:

The "Baby Boom" galaxy loosely resembles the galaxy shown here, called Zw II 96, in this Hubble Space Telescope image. This galaxy is only 500 million light-years away, while the Baby Boom galaxy is 12.3 billion light-years away.

Are you a S*T*A*R Member?

S*T*A*R is the proud owner of a monstrous 25" Dobsonian Obsession reflector - which members can gain access to!

Meetings are the first Thursday of each month, except July and August, at 8:00 PM at the King of Kings Lutheran Church, 250 Harmony Rd. in Middletown. Meetings generally consist of lectures and discussion by members or guest speakers on a variety of interesting astronomical topics. S*T*A*R is a member of United Astronomy Clubs of New Jersey (UACNJ), the Astronomical League (AL), and the International Dark Sky Association (IDA).

Memberships: ()Individual....\$25 () Family...\$35

Name_____

Address

City_____State__Zip____

Phone_____

Email

Make checks payable to: S*T*A*R Astronomy Society, Inc. and mail to P.O. Box 863, Red Bank, NJ 07701



2008 October Celestial Events

Supplied by J. Randolph Walton (Randy)

| - | | | | |
|-----|------|---------|-----------------------------|--|
| Day | Date | TimeEDT | Event | |
| Sat | 4 | 04:45 | Saturn Rises | |
| | | 07:00 | Sunrise | |
| | | 18:37 | Sunset | |
| | | 19:20 | Mars Sets | |
| | | 19:52 | Venus Sets | |
| | | 21:22 | Moon Set | |
| | | 23:37 | Jupiter Sets | |
| Tue | 7 | 05:04 | First Quarter Moon | |
| | | 14:48 | Moon Rise | |
| Sat | 11 | 04:25 | Saturn Rises | |
| | | 06:25 | Mercury Rises | |
| | | 19:05 | Mars Sets | |
| | | 19:50 | Venus Sets | |
| | | 23:15 | Jupiter Sets | |
| Tue | 14 | 16:02 | Full Moon | |
| Fri | 17 | 07:00 | Moon 0.8 deg. N of the | |
| | | | Pleiades (M45) | |
| | | 07:13 | Sunrise | |
| Sat | 18 | 04:05 | Saturn Rises | |
| | | 05:45 | Mercury Rises | |
| | | 18:15 | Sunset | |
| | | 18:50 | Mars Sets | |
| | | 19:45 | Venus Sets | |
| | | 20:58 | Moon Rise | |
| | | 22:53 | Jupiter Sets | |
| Tue | 21 | 00:00 | Orionid meteors peak | |
| | | | (ZHR=20) | |
| | | 07:55 | Last Quarter Moon | |
| | | 14:30 | Moon Set | |
| Sat | 25 | 03:35 | Saturn Rises | |
| | | 05:50 | Mercury Rises | |
| | | 07:22 | Sunrise | |
| | | 16:17 | Moon Set | |
| | | 18:06 | Sunset | |
| | | 18:35 | Mars Sets | |
| | | 19:47 | Venus Sets | |
| | | 22:30 | Jupiter Sets | |
| Mon | 27 | Before | Zodiacal Light visible in E | |
| | | 05:45 | before morning twilight | |
| | | | for next two weeks | |
| Tue | 28 | 17:30 | Moon Set | |
| | | 19:14 | New Moon | |
| Sat | 11/1 | 03:10 | Saturn Rises | |
| - | | 06:20 | Mercury Rises | |
| | | 18:25 | Mars Sets | |
| | | 19:51 | Venus Sets | |
| | | 22:05 | Jupiter Sets | |
| | | 22:03 | Jupiter Sets | |

In the Eyepiece

Here is a list of objects for this month. This is reproduced from <u>www.skyhound.com</u> with the kind permission of its creator and author of SkyTools Greg Crinklaw.

| Object(s) | Class | Con | RA | Dec | Мад |
|-------------------|--------------------|----------|-------------|--------------|------|
| Garnet Star | Multiple Star | Cepheus | 21h43m30.5s | +58°46'48'' | 4.2 |
| Zeta Aqr | Multiple Star | Aquarius | 22h28m49.9s | -00°01'12" | 3.7 |
| LW Cyg | Multiple Star | Cygnus | 21h55m13.8s | +50°29'50'' | 9.2 |
| <u>M2</u> | Globular Cluster | Aquarius | 21h33m28.4s | -00°49'39'' | 7.3 |
| <u>M15</u> | Globular Cluster | Pegasus | 21h30m01.0s | +12°10'12" | 7.3 |
| <u>Helix</u> | Planetary Nebula | Aquarius | 22h29m38.4s | -20°50'13'' | 7.6 |
| Humason 1-2 | Planetary Nebula | Cygnus | 21h33m06.6s | +39°38'17" | 12.7 |
| <u>NGC 7139</u> | Planetary Nebula | Cepheus | 21h46m08.2s | +63 °47'59'' | 13.0 |
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| <u>Cocoon</u> | Diffuse Nebula | Cygnus | 21h53m24.0s | +47°16'00'' | 10.0 |
| <u>IC 5217</u> | Planetary Nebula | Lacerta | 22h23m55.7s | +50°58'00'' | 12.6 |
| <u>NGC 7094</u> | Planetary Nebula | Pegasus | 21h36m53.0s | +12°47'19" | 13.7 |
| Stephan's Quintet | Galaxy Group | Pegasus | 22h36m00.5s | +33°57'57'' | 12.0 |
| <u>NGC 7354</u> | Planetary Nebula | Cepheus | 22h40m20.9s | +61 °17'39'' | 12.9 |
| <u>NGC 7354</u> | Planetary Nebula | Cepheus | 22h40m20.9s | +61 °17'39'' | 12.9 |
| Einstein's Cross | Gravitational Lens | Pegasus | 22h40m32.5s | +03°21'48" | 17.4 |
| Garnet Star | Multiple Star | Cepheus | 21h43m30.5s | +58°46'48'' | 4.2 |
| Zeta Aqr | Multiple Star | Aquarius | 22h28m49.9s | -00°01'12" | 3.7 |
| <u>LW Cyg</u> | Multiple Star | Cygnus | 21h55m13.8s | +50°29'50'' | 9.2 |
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Moon Phases



AstroPuzzle Solution for September 2008



Jupiter Moon Calendar

Here is a graphical depiction of the visible moons of Jupiter for the month of October 2008.



Saturn Moon Calendar

Here is a graphical depiction of the visible moons of Saturn for the month of October 2008.



AstroPuzzle - October 2008



www.CrosswordWeaver.com

ACROSS

- 1 German composer
- 5 Deer relative
- 8 Deer
- 11 Band instrument
- 12 Lock's partner
- 13 Retired persons association (abbr.)
- 14 Bod
- 15 Self
- 16 The second largest moon of Saturn.
- 17 Pull_ (sweaters)
- 19 The smallest particle of any element.
- 21 Fisherman's tool
- 22 "The Jungle" author Sinclair
- 24 Brand of dispensable candy
- 27 Towards
- 28 Swelling
- 30 Temple
- 33 Grab (2 wds.)
- 34 Listlessness
- 35 Comply
- 36 Cheat
- 37 Bets
- 39 Epoch
- 42 Louver
- 43 Governing group
- 45 The hazy-looking patch surrounding the nucleus of a comet.
- 48 Papa
- 50 Desert condition
- 51 Part
- 52 The other half of Jima
- 53 Lounge
- 54 Crimson
- 55 Newspaper
- 56 Otherwise

DOWN

- A particle that carries force; one of two types of elementary particles.
- 2 Aloft
- 3 A small, frozen mass of dust and gas revolving around the sun.
- 4 Judge
- 5 Stretch to make do
- 6 Smooth
- 7 Japanese city
- 8 Morse code dash
- 9 Unrefined metal
- 10 Government agency
- 13 Fortify
- 18 Ancient instrument used to tell time.
- 20 Unity
- 23 School group
- 24 High-school club
- 25 Flightless bird
- 26 Nuke
- 27 Promissory note
- 29 Amount of time it takes the Earth to spin once on its axis.
- 30 Wooden leg
- 31 Whichever
- 32 Gross national product (abbr.)
- 33 South by east
- 35 Canadian capital
- 38 That point on the celestial sphere directly below the observer.
- 39 Enter
- 40 Churns
- 41 Confuse
- 42 Stood opposite
- 44 Harvard's rival
- 45 Pooch
- 46 Only
- 47 Middle
- 49 Cur