



the Skyscraper

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Amateur Astronomical Society of Rhode Island ★ 47 Peepoad Road ★ North Scituate, Rhode Island 02857 ★ www.theSkyscrapers.org

Holiday Meeting and Festivities Saturday, December 3, 7:00pm at North Scituate Community Center

"Night of Raining Fire" by Richard Sanderson

During the early morning hours of November 13, 1833, hundreds of thousands of meteors and fireballs blazed across the heavens over the eastern United States. The cosmic fireworks took the nation by surprise and convinced some terrified observers that they were witnessing the Day of Judgment. During the months that followed, astronomers uncovered the true nature of meteor showers and meteor storms.

Richard Sanderson has collected numerous accounts of the 1833 Leonid

Meteor Storm that were published in period newspapers and journals across the country, many of which have never again appeared in print. Using these eyewitness descriptions, he will bring alive this historic astronomical event and survey the wide range of theories that sought to explain its origin.

Richard Sanderson is the Curator of Physical Science at the Springfield Science Museum in Massachusetts, and is Director of the museum's Seymour Planetarium. He is the author of a feature article about the 1833 meteor storm that appeared in the November 1998 issue of *Sky & Telescope* and is co-author of the 2006 book, *Illustrated Timeline of the Universe*.

April. Our speaker that evening will be Richard Sanderson, Curator of Physical Science at the Springfield Science Museum in Massachusetts, and Director of the museum's Seymour Planetarium.

We are planning to have a Pot Luck Dinner, and past years have proven that many of our members do not only know their way around a telescope, but can handle a stove as well. Now, if you're like me, a person that should not be allowed anywhere near a stove, feel free to bring your favorite prepared items from professionals like Sarah Lee or Frito Lay. We have planned on providing the Coffee, refreshments, and some pastries. The Saturday date was decided upon years ago to allow those planning a homemade dish sufficient time to prepare them, and to provide our members adequate time to arrive. Let me know what food item you plan to bring so that our efforts can be coordinated and we don't end up with too much of any one item. You can contact me via e-mail at DeepSpaceViewer@aol.com or call me at 401-489-1957.

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Skyscrapers December Holiday Meeting and Festivities

We are continuing our Skyscrapers tradition and will be holding our December Meeting on Saturday (Dec. 3rd) at 7:00pm rather than our normal Friday. Our meeting will be at the North Scituate Community Center, as it will be from December through

Phases of the Moon



2



10



17



24

Other notable events: Mercury is at inferior conjunction in the 4th. Lunar eclipse begins at moonset on the 10th (not visible from East Coast). Solstice is on the 22nd. Mercury at greatest western elongation on the 23rd. Pluto is in conjunction on the 29th.

President's Message

Tom Thibault

Dear Skyscrapers Members,

Hopefully all of you weathered our early snowstorm well, I would suspect some lost power like so many in New England. Let's hope this was not an omen of this year's coming winter. I'm sure none of us want a repeat of the last one. I was relieved with the few days with temps in the 70's, which helped fade those thoughts. To the delight of all stargazers, we have now turned our clocks back an hour and are now on standard time. It's the time of year I enjoy the best—the temp's are still tolerable and I'm out below the stars by 6:00pm. So get out there and enjoy the early clear nights.

Our November Meeting featured Dr. Timothy Barker of Wheaton College, who was joined by Shelby Delos, a current Wheaton student. Dr. Barker's presentation included an overview of Wheaton College's new astronomy facility. He then focused on astronomical filters, which was truly enlightening. His hands on approach engaged those attending with demonstrations on light emissions and the effects of filtering upon them. Shelby Delos presented an overview of Wheaton College's current research work utilizing observations at remote observatories in both the Southwest and Australia. Very interesting activities.

We have had some clear evenings on our Public Nights and continue to show the skies nighttime wonders to all with an interest. Uranus and Neptune continue to be positioned well for viewing, so how are we doing catching a glimpse of our gas giant

neighbors? Our observatory committee has set-up an observation log, so get out there, view, and log your observations on our board. Remember, our scopes are available, so come to Seagrave on Public Nights if you wish or do not have a telescope at home to make these observations.

We are continuing our Skyscrapers tradition and will be holding our December Meeting on Saturday (Dec. 3rd) at 7:00pm rather than our normal Friday. Our meeting will be at the North Scituate Community Center, as it will be from December through April. Our speaker that evening will be Richard Sanderson, Curator of Physical Science at the Springfield Science Museum in Massachusetts, and Director of the museum's Seymour Planetarium.

We are planning to have a Pot Luck Dinner, and past years have proven that many of our members do not only know their way around a telescope, but can handle a stove as well. Now, if you're like me, a person that should not be allowed anywhere near a stove, feel free to bring your favorite prepared items from professionals like Sarah Lee or Frito Lay. We will provide the coffee, other refreshments, and some pastries. The Saturday date was decided upon years ago to allow those planning a homemade dish sufficient time to prepare them, and to provide our members adequate time to arrive. Let me know what food item you plan to bring so that our efforts can be coordinated and we don't end up with too much of any one item. You can contact me via e-mail at DeepSpaceViewer@aol.com or call me at 401-489-1957.

I look forward to seeing everyone at the Holiday Meeting. Come join in on the festivities. What's better than an evening of interesting presentations, good food, and great friends?



Skyscrapers Member **Savvas Koushiappas** published a paper in *Physical Review Letters* which sets a lower limit on the mass of dark matter particles

Physicists set strongest limit on mass of dark matter

news.brown.edu/pressreleases/2011/11/wimps



The Skyscraper is published monthly by Skyscrapers, Inc. Meetings are usually held on the first Friday of the month. Public observing is usually held every Saturday night at Seagrave Memorial Observatory, weather permitting.

President

Tom Thibault DeepSpaceViewer@aol.com

1st Vice President

John Briggs john.w.briggs@gmail.com

2nd Vice President

Kathy Siok ksiok@cox.net

Secretary

Ed Haskel haskell.ed@gmail.com

Treasurer

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Members at Large

Gene Kusmierz gkusmierz@cox.net

Jim Hendrickson jim@distantgalaxy.com

Trustees

John Leonelli jleonelli@aol.com

Pat Landers pbl64@comcast.net

Steve Siok ssiok@cox.net

Star Party Coordinator

Bob Forgiel bforgiel@cox.net

Librarian

Amber Lesperance ambie630@yahoo.com

Historian

Dave Huestis dhuestis@aol.com

Editor

Jim Hendrickson jim@distantgalaxy.com

Directions

Directions to Seagrave Memorial Observatory are located on the back page of this newsletter.

Submissions

Submissions to The Skyscraper are always welcome. Please submit items for the newsletter no later than **December 18** to Jim Hendrickson, 1 Sunflower Circle, North Providence, RI 02911 or e-mail to jim@distantgalaxy.com.

E-mail subscriptions

To receive The Skyscraper by e-mail, send e-mail with your name and address to jim@distantgalaxy.com. Note that you will no longer receive the newsletter by postal mail.



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Another Observing Challenge for Skyscrapers: Variable Star Delta Cephei

Gerry Dyck

Jim Hendrickson suggested the idea and Steve Siok supported it, so here it is – another challenge for Skyscrapers members to develop their observing skills in the arena of variable star observing. The first focus would be to observe Delta Cephei (the prototype of this class of pulsating stars) to determine its light curve. The tools needed for this task are: your unaided eyes, some determination, and the charts provided below. A pair of low-power binoculars might be helpful in some cases.

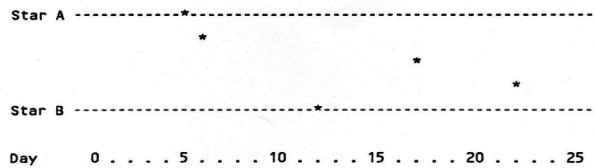
Delta Cepheid variables are stars of roughly the same temperature which pulsate radially (becoming uniformly larger and smaller) according to the size of the star, larger stars pulsating slower than smaller stars. The cause of this pulsation has been found to be the instability of the shell of helium deep inside the star. The link between luminosity (actual brightness) and pulsation period allows astronomers to use these stars as standard beacons of brightness useful in calibrating the distances of clusters and galaxies containing these stars out to vast distances. It was Henrietta Leavitt at Harvard who discovered this valuable tool, and Edwin Hubble who found Cepheids in the Andromeda Galaxy and beyond. The estimated size of the universe quickly ballooned to a more accurate figure.

By joining in this challenge you can hone your own observing skills, create increased solidarity within our astro-society; all the while re-creating one of the great discoveries of the twentieth century.

I wish you clear skies and the determination to participate in this friendly challenge. I will participate by bringing my own data results to the January and February meetings.

Here's how to get started:

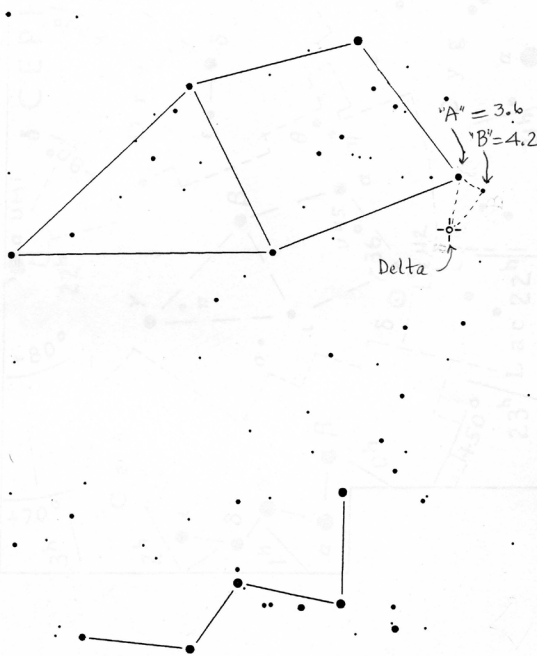
Step 1: Learn to identify the constellation Cepheus (above the "W" of Cassiopeia) and the little triangle of stars at the base of the house-shaped pentagon. The peak of the little triangle is the target star Delta, and the two stars at the base of the triangle are the two conveniently placed comparison stars we can call A (mag 3.6) and B (mag 4.2) for this project.



Step 2: Study this sample data sheet and the hypothetical points which have been entered to show that:

- on the 5th of the month Delta appears equal to Star A.
- on the 6th Delta appears a bit dimmer than Star A.
- on the 12th Delta appears as dim as Star B.
- on the 17th Delta appears mid-way between A and B
- on the 22nd Delta appears noticeably brighter than B

Step 3: Make your own actual visual estimates of Delta Cephei for a month or more and enter them in the blank data form below. Try to make an estimate on every clear night of the month for greatest data density. Bring your results to a Skyscrapers meeting for comparison with the data of other observers.



Delta Cephei: Month of _____

*A -----

*B -----

Day 0 5 10 15 20 25 30

Delta Cephei: Month of _____

*A -----

*B -----

Day 0 5 10 15 20 25 30

The Constellations in December

Francine Jackson

As you watch Orion rise higher and higher above the horizon, on its way to its upright position due south with every colder and colder seasonal night, you might notice that it comes equipped with a pair of stars just above its majestic figure. These are Castor and Pollux. It's easy to remember which is which, because in the alphabet "C" comes before "P," and Castor rises before Pollux, leads it across the sky, then sets first below the western horizon. Castor and Pollux are traditionally referred to as the heads of Gemini, the Twins, a very unusual set, in fact, for they had different dads. Pollux was the son of Jupiter, and therefore was immortal, while his brother's father was a human being. Unfortunately, as happens to humans, Castor lost his life in battle, and Pollux was so distraught at losing his beloved brother and best friend that he asked his father to be with Castor always. As a compromise, which we see in the sky, for half the year Castor returns to Earth, to be with Pollux. The constellation from this latitude virtually travels over our heads, two brothers visibly happy to be here. But then, when the warmer weather starts to come back, the brothers soon disappear below the western horizon, letting us know that Pollux must now join Castor in his world, Hades. This constellation is very easy to see, as the two brothers actually are stick figure fraternal twins, sitting just above Orion's shoulders.

To the right, or west, of Gemini is an almost perfect pentagon shape. Early traditions had this as one of the shields belonging to Neptune, but somehow this got changed to depict a man riding a chariot, Auriga, the Charioteer. His reason for being in the sky is in question, but some believe he represents the son of Vulcan who was unable to walk properly and thus invented the chariot, a move which cause him to become forever immortalized in the sky.

Auriga's brightest star, Capella, also was important in mythology as it was often called the "goat star." Some have it as the goat that gave life to the baby Jupiter, who broke off one of the goat's horns. To make up for this faux pas, Jupiter took the horn and gave it magical powers, to the extent that the person in possession of it could have it filled with whatever he wished it to be

filled with. This was called the "cornucopia," or horn of plenty, a symbol of the holidays to this day. Also, if you look just to the south of Capella, you might see a dim triangle. These three stars are collectively referred to as the three little kids, being protected by Capella.

Once these two constellations are within easy viewing with the previously described winter constellations, you might just see a very easy way to put all of the bright stars of this season together. Simply begin at Capella, move to the left, or east, to first Castor, then Pollux, keep to the left but go downward to the little dog star Procyon, almost straight down to brilliant Sirius, now right, or west, to Rigel, move right and slightly up toward the Bull's eye, Aldebaran, then take a hard left to Betelgeuse. Notice, you've made an almost perfect letter "G." This asterism, made up of the brightest stars in the winter sky, is called the Heavenly G, and, if you're in a city sky, you might realize that now that you've seen it, the rest of the constellations are rather dim and might be a bit difficult to resolve again.

The last constellation in this winter set can be found by once again going to Orion's belt, but this time move downward below his knees. You might find six stars arranged in a really crooked rectangle. This is Lepus, the Rabbit. Some of us feel really bad for this poor little creature, hiding below the greatest hunter that ever lived. Surprisingly, very early myths had this part of the sky listed as a bird, which seems to make more sense, as the basic shape could possibly be looked on as a wing. However, when this metamorphosis occurred, the rabbit was left with two avian characteristics: First, as his shape suggests, he could fly. And secondly, the more important reason to have a rabbit in the sky, Lepus could lay eggs. This little constellation is the celestial representation of the Easter Bunny. And, even though Lepus is a part of the winter sky, regardless of when the moveable feast of Easter occurs, anywhere from immediately after the vernal equinox to the end of April, Lepus is still in the early evening sky, overlooking all who spend their time hunting everywhere for his cache of Easter eggs.

Meteor(ocre) Prospects for The Geminid Meteor Shower

Dave Huestis

Last month I reported on the mini-storm for the Draconid meteor shower on October 8 over Europe. We saw little or no activity here. I still had hopes for the Orionids on the night of October 21-22. Unfortunately as the time approached the midnight hour the clouds rolled in. They hung around until sunrise. Outside of our local area some folks were more fortunate. See the following web site for a few images of meteors streaking across a cloud free sky: <http://www.space.com/13363-photos-orionid-meteor-shower-2011-skywatchers.html>.

I am writing this column before the meteor showers of November, so I've got my fingers crossed that despite interfering moonlight with both of them we have some chance of observing a few shooting stars.

We amateur astronomers have had quite a poor year of enjoying our hobby. The weather has been absolutely horrible. If the precipitation keeps up its year-long trend I fear we may be snowbound this winter. The Winter Solstice begins at 12:30 a.m. on December 22. Note how low the Sun travels in its arc across the southern sky.

The last major meteor shower of 2011 peaks on the night of December 13-14. This annual shower, known as the Geminids, is the most consistent meteor shower of the year, producing 60+ meteors per hour at peak under the best dark sky conditions we have here in southern New England. We can always hope that the weather will cooperate, but unfortunately the waning gibbous Moon (Full on the 10th) will somewhat reduce the number of meteors one can observe. What makes conditions even worse is that the Moon will rise around 8:28 p.m. locally and will be in the sky the rest of the night.

Unlike some of the other major meteor showers, the Geminids can be observed early in the evening. Why? Gemini, the constellation from where the shooting stars appear to radiate, is about 30 degrees above the eastern horizon by 9:00 p.m. (The actual radiant point is very near Gemini's bright stars Castor and Pollux.) Unfortunately that bright Moon will be sitting in the adjacent constellation of Cancer. Therefore you will

want to look in any direction away from the direction of Gemini and the Moon.

You'll know you've seen a Geminid if you can trace the origin of the meteor's trail back to the radiant point near Castor and Pollux. Seldom do meteors begin exactly at that point in the sky. An observer needs to scan as much of the sky as possible, constantly shifting your gaze high and low, right and left.

While the above stated conditions seem somewhat dire, the Geminids do deserve your attention, even if it is for only a couple of hours. An observer shielded from unwanted light pollution may still see 30 or so meteors per hour. The Geminids are fairly bright and moderate in speed, hitting our atmosphere at 21.75 miles per second. They are characterized by their multicolored display (65% being white, 26% yellow, and

the remaining 9% blue, red and green). Geminids also have a reputation for producing exploding meteors called fireballs.

Remember that while you're out there watching for "burning rocks" to fall from the sky, dress warmly and get comfortable. Just don't fall asleep! I want you to survive to observe another night.

We can only hope that the last shooting star display of 2011 will shower us with a few cosmic gifts from the sky.

Just a quick FYI: on December 10 a total lunar eclipse will occur. It will not be visible to us in the eastern United States. However, if one travels to the west coast you will be able to see a portion of totality as the Moon sets. Further west to Asia the eclipse will be seen in its entirety. Let me know if you are fortunate to view this event.

Don't forget to visit the local observa-

tories to enjoy the wonders of the heavens. Throughout the winter months Jupiter will be the center of attention, as well as the beautiful Orion Nebula. Seagrave Memorial Observatory (<http://www.theskyscrapers.org>) in North Scituate is open to the public every clear Saturday night, though it will be closed on December 3. Also, Ladd Observatory (<http://www.brown.edu/Departments/Physics/Ladd/>) in Providence is open every clear Tuesday night. Frosty Drew Observatory (<http://www.frostydrew.org/>) in Charlestown is open every clear Friday night year-round. Be sure to check all the websites for the public night schedules and opening times before visiting these wonderful facilities. Wintry conditions can force unexpected closures.

Clear skies to all and happy holidays.

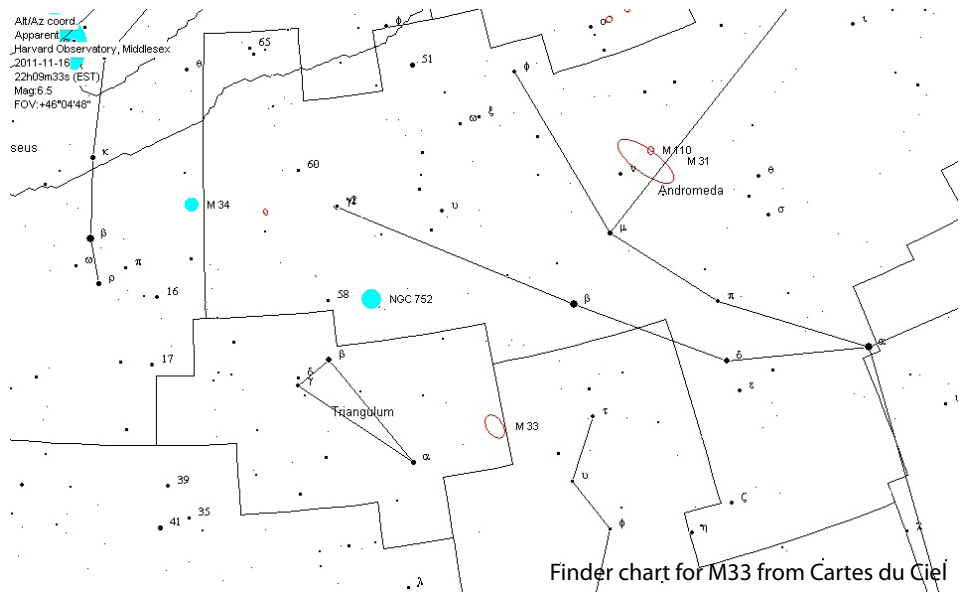
M33: Galaxy in Triangulum

Glenn Chaple's Sky Object of the Month

The magnitude system works quite well for quantifying the brightness of stars. We know that a 6th magnitude star will be barely visible to the unaided eye from rural areas, yet easily seen in even the smallest of telescopes.

The magnitude system doesn't work as well for deep-sky objects. Consider the spiral galaxy M33 in Triangulum. Listed as a 6th magnitude object, it's notoriously difficult to view in telescopes. M33 is elusive because its light is spread over an area four times that of the full moon. Defocus a 6th magnitude star until it's that large and you'll get the idea.

Another reason why M33 is such a demanding target is its location in a star-poor region of the late autumn sky. I usually find it by training my telescope on an area roughly $4\frac{1}{2}$ degrees west and slightly north of alpha (a) Trianguli. You can also trace an



Finder chart for M33 from Cartes du Ciel

imaginary line from the Andromeda Galaxy (M31) to the star beta (b) Andromedae, then extend an equal distance beyond (refer to the accompanying finder chart). In either case, begin a low power sweep of the area until you encounter a large, faint glow.

The key to observing M33 is to use an eyepiece that affords a field of view of at least $1\frac{1}{2}$ to 2 degrees. One of the best views I've had of M33 was with a 4-inch $f/4$ RFT (the Edmund Astroscan) and a magnifying power of 16X. I've spotted it with 7X50 binoculars, and some observers even report seeing it with the unaided eye. The key, of

course, is to conduct a search for M33 from a dark-sky site on a clear, moonless evening.

Numerous sources credit the discovery of M33 to Messier himself (in 1764); however evidence exists that the true discoverer may have been the Italian astronomer Giovanni Battista Hodiema over a century earlier.

M33 is part of the Local Group of galaxies that includes our Milky Way and the Andromeda Galaxy. It's approximately half the size of the Milky Way and lies about 2.9 million light-years away.



M33 image by Tom Thibault

Asteroid 2005 YU55 observing reports



Pete Peterson Wishing Star Observatory

Tuesday, 8 Nov 2011 The sky's clear for the close flyby of asteroid 2005 YU55. I'm out by 17:30 turning the observatory on and preparing to take a new set of flats. But the camera driver has been corrupted and although I eventually get it operating I'm running behind schedule all evening.

Around 18:35 I did locate this potentially hazardous Apollo. With 6 second exposures it was a bright short streak as it moved from image center to image edge before I could even start saving the images. The asteroid was running about 2 minutes ahead of predicted schedule, and eventually I did capture astrometric quality images:

28 X 1 second exposures, binned 2X2, cooled -20C, unguided. No darks or flats were applied but the image was Photoshopped in an attempt to enhance the view of the asteroid as it traveled from the middle of the right hand (west) edge to the upper part of the left hand (east) edge.

C2005 YU55 is passing approximately 200,000 miles above Earth at 18:28 hrs. I started imaging at 18:56 and the frames used were taken from approximately 18:57:53 – 18:19 hrs. Movement is approximately 8°/hr. Frames 13, 25 & 38 were used for astrometry. Although the position was accurately determined it was too far from predicted for the computer to provide a variation value. Magnitude measured at 12.4.

This is it for the night. The astrometry was performed immediately and the dome was shut down by 19:19 hrs.

The data was immediately emailed to the MPC, and I received an unheard of email back within minutes. Apparently they were staffed and awaiting data. Unfortunately, the message wasn't good news: "Your observations of K05Y55U are not hanging together with an orbit including the latest radar observations."

My reply: "I've triple checked and I'm at a loss to explain it. The asteroid images have a high S/N of 19 and are only a little streaked at FWHM of 5.5". Astrometrica had 140 reference stars. The time should be good to within 1/2 second. And other than the fact that I had trouble with my ST-8XME driver at start-up nothing's changed. Pete Peterson 115"

There was no further word, but obviously Areibo and Goldstone have an edge on being more correct than Wishing Star. How did I screw up? After an anxious and what seemed to be a prolonged 2 day wait the MPC analysis became available. Not only were my numbers accurate, but only one other observatory doing astrometry caught YU55 before I did on this opposition, and mine are the only observations recorded at closest opposition.

John Briggs HUT Observatory

<http://youtu.be/a2a43g8vIP0> Here is a time-lapse video loop using 80 frames of the many I recorded last night. It was harder to make than I expected, because I was unable convert the FITS files into JPEGs, which is necessary before I can run the images through Windows MovieMaker. The result looked pretty good on my high-definition monitor here, forgiving the background noise resulting from my short, 3-second exposures. With experience, I'm sure I'll find there's an easier way to do it.

And to my horror, the resulting clip proved to be 80 megabytes, so I had to compress it way down to make it work as an email attachment. There is an edge-on galaxy that drifts by on the right-hand side. The images are fully flat-fielded and reduced

with 51 darks, 51 flats, and 51 bias frames using CCDSoft. The uncompressed version will be handy at the local astronomy club meeting tomorrow night.

Bob Napier Scituate Observatory

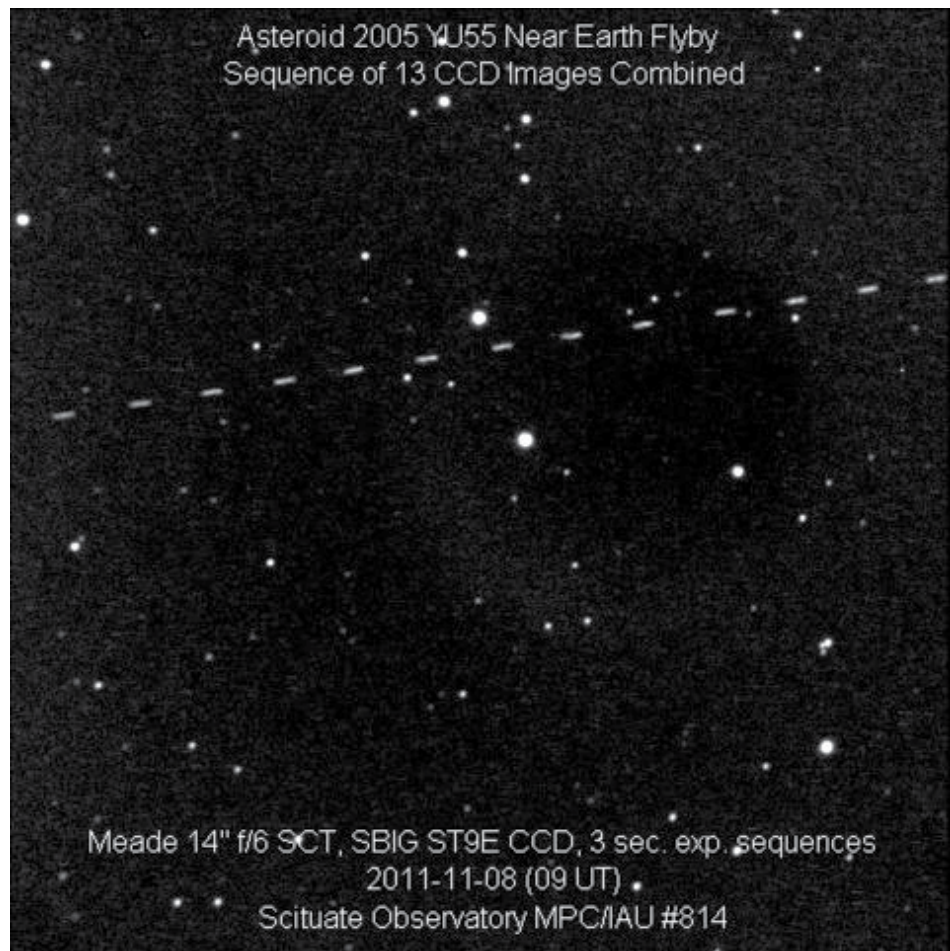
Good to see you got some images of the asteroid too, Pete. Good work, as always.

My image sequences of 2005 YU55 didn't get started until about 7:30 PM because of "technical difficulties". Once started, although it was a comfortable night outside, I retired inside and did all my imaging by "remote" control. I probably have about 200 images in total with some through a V filter. The image composite displayed above (as of Nov. 10) is made up of 13 exposures of 3 seconds each and stacked to show the asteroid's path across the sky. A video was also generated of the asteroid passing through the field of view (17X17 arc-min FOV). It is posted here:

<http://www2.turto10.com/news/news/2011/nov/09/user-video-asteroid-flyby-31261-vi-34573/>

It was difficult to find up to date orbital elements. The set of elements downloaded from the MPC website were somewhat out of date and differed from the JPL elements set by a couple of degrees.

I ended up using the JPL elements to find the asteroid. Once found, it was quite easy to follow the motion by periodically repositioning the telescope by remote software control by a few arc-min per each 4 minute time interval.



Re-thinking an Alien World: The Strange Case of 55 Cancri e

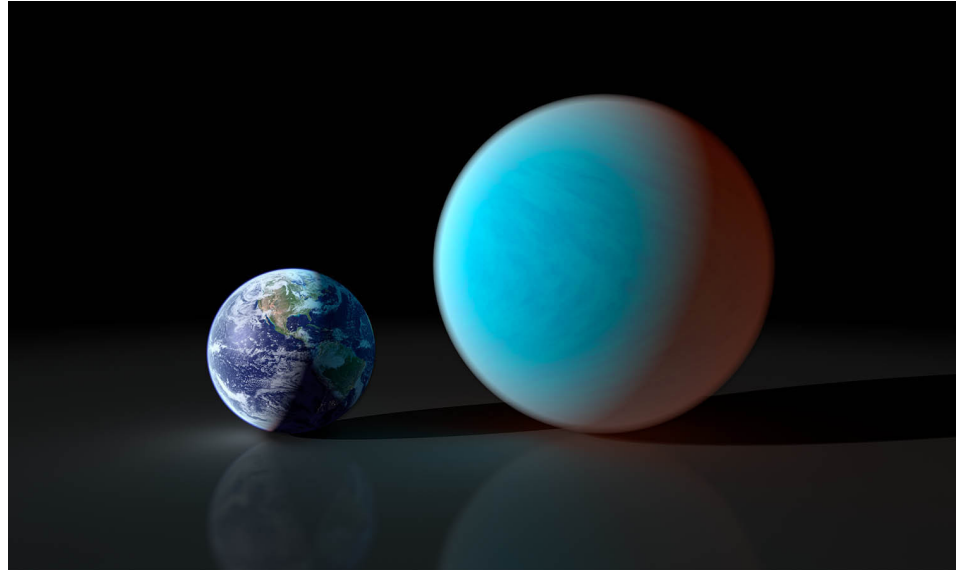
Forty light years from Earth, a rocky world named “55 Cancri e” circles perilously close to a stellar inferno. Completing one orbit in only 18 hours, the alien planet is 26 times closer to its parent star than Mercury is to the Sun. If Earth were in the same position, the soil beneath our feet would heat up to about 3200 F. Researchers have long thought that 55 Cancri e must be a wasteland of parched rock.

Now they're thinking again. New observations by NASA's Spitzer Space Telescope suggest that 55 Cancri e may be wetter and weirder than anyone imagined.

Spitzer recently measured the extraordinarily small amount of light 55 Cancri e blocks when it crosses in front of its star. These transits occur every 18 hours, giving researchers repeated opportunities to gather the data they need to estimate the width, volume and density of the planet.

According to the new observations, 55 Cancri e has a mass 7.8 times and a radius just over twice that of Earth. Those properties place 55 Cancri e in the “super-Earth” class of exoplanets, a few dozen of which have been found. Only a handful of known super-Earths, however, cross the face of their stars as viewed from our vantage point in the cosmos, so 55 Cancri e is better understood than most.

When 55 Cancri e was discovered in 2004, initial estimates of its size and mass were consistent with a dense planet of solid rock. Spitzer data suggest otherwise: About a fifth of the planet's mass must be made of light elements and compounds—including water. Given the intense heat and high pressure these materials likely experience, researchers think the compounds likely exist in a “supercritical” fluid state.



Artist's rendering compares the size Earth with the rocky “super-Earth” 55 Cancri e. Its year is only about 18 hours long!

A supercritical fluid is a high-pressure, high-temperature state of matter best described as a liquid-like gas, and a marvelous solvent. Water becomes supercritical in some steam turbines—and it tends to dissolve the tips of the turbine blades. Supercritical carbon dioxide is used to remove caffeine from coffee beans, and sometimes to dry-clean clothes. Liquid-fueled rocket propellant is also supercritical when it emerges from the tail of a spaceship.

On 55 Cancri e, this stuff may be literally oozing—or is it steaming?—out of the rocks.

With supercritical solvents rising from the planet's surface, a star of terrifying proportions filling much of the daytime sky, and whole years rushing past in a matter of hours, 55 Cancri e teaches a valuable lesson: Just because a planet is similar in size to

Earth does not mean the planet is like Earth. It's something to *re*-think about.

Get a kid thinking about extrasolar planets by pointing him or her to “Lucy's Planet Hunt,” a story in rhyme about a girl who wanted nothing more than to look for Earth-like planets when she grew up. Go to <http://spaceplace.nasa.gov/story-lucy>.

The original research reported in this story has been accepted for publication in *Astronomy and Astrophysics*. The lead author is Brice-Olivier Demory, a post-doctoral associate in Professor Sara Seager's group at MIT.

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

Have you observed **Uranus** or **Neptune** recently? Please send your reports or images to ssiok@cox.net. Please send other observing reports and photos to Jim@distantgalaxy.com.



November Reports

Ed Haskell, Treasurer

Tom Thibault, Acting Treasurer

Skyscrapers Minutes

November 4, 2011

Seagrave Observatory

President Tom Thibault introduced the speaker, **Dr. Timothy Barker**, who received his Ph.D. in Astrophysics at the University of California at Santa Cruz in 1974 and has been at Wheaton ever since. For a more complete c.v. See the Skyscraper, November, 2011. The title of Dr. Barker's talk was **Sky Pollution Filters and What They Reveal About Nebulae**. Dr. Barker demonstrated how filters such as Orion Telescope's Ultrablock filter allow observers to see emission nebulae clearly even when the sky is polluted because of nearby lighting. He went on to explain what we can learn about nebulae by viewing them with



these different kinds of filters. Dr Barker introduced one of his students, sophomore **Shelby Delos** who presented her **Asteroid Research at Wheaton and Australia**, a NASA-supported research project that she carried out last summer to measure the light curve of the minor planet Ingrid using CCD images obtained by an Internet controlled 10-inch telescope at Wheaton's southern observatory at Grove Creek, Australia. Dr. Barker mentioned that they are interested in possible collaborations with amateurs on projects of this kind.

Both presentations were well received and stimulated much discussion.

Business Meeting

Secretary's Report adopted with no changes from floor.

Treasurer's Report was heard.

Trustees. **Members were encouraged to take advantage of favorable positions of Uranus and Neptune to observe these objects. An observing log has been prepared by the Trustees to record each Member's observation.**

1st Vice President reports that the **December 3rd meeting** will feature **Richard Sanderson**, Curator of Physical Science at the Springfield Science Museum in Massachusetts, and Director of the museum's Seymour Planetarium The title for the talk was not announced.

2nd Vice President expressed relief that another successful AstroAssembly is over and that a small profit was made on the endeavor.

Outreach Coordinators **public interest in star parties continues to be high** and numerous groups are scheduled in the coming weeks.

Historian. Dave Huestis displayed an antique poster depicting "the official donut of Skyscrapers" to the merriment of all as-

sembled.

For the Good of the Organization **Gerry Dyck reported on the centennial anniversary meeting of AAVSO which was attended by four Skyscraper members.**

President Tom Thibault read a nice card from Ed Turco to all members describing his joy at his 50th AstroAssembly.

Adjourned at 9:35 pm.

Respectfully submitted, Ed Haskell

Executive Committee Meeting Nov. 5, 2011

December Holiday Meeting: Notification to be posted on Skyscrapers Website and E-mail sent to membership • Pot-Luck banquet to be included

Annual Election: Attendee's requested to begin consideration of possible candidates • Open positions will be President, 1st VP, Secretary, Treasurer, (1) Member at Large, and (1) Trustee

Membership Dues Discussion: 31 members past due • How to handle continuing issue • Creating incentives to entice prompt payment; Reduced AstroAssembly fee; Limit Web site content access; Removal from Voting List

Outreach Program - Star Party Fee Structure: Discussion regarding fees based on event, location, and group size

Grounds Projects: Discussions regarding scheduling a work session to begin clean-up of adjacent property generously cleared by our neighbor Gene Allen • Possibility of a Scout Troop to volunteer to assist to fulfill a scouting requirement. We would offer a private evening of viewing on a night determined by them.

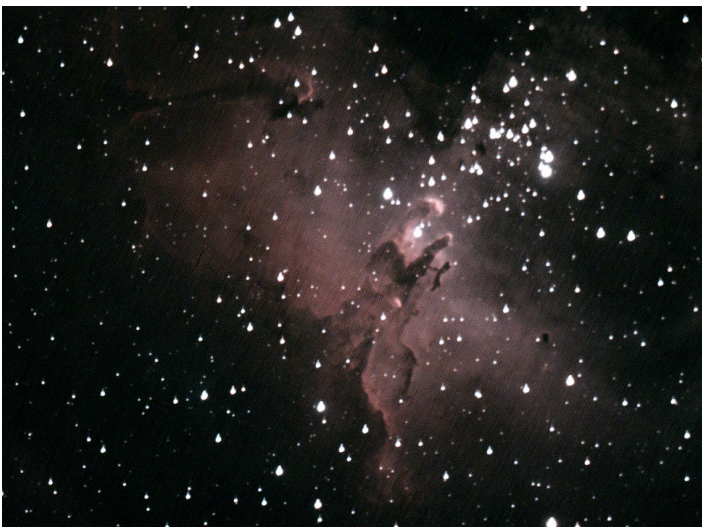
AstroAssembly Review: Financial results discussed, Kathy Siok to update the membership at a future meeting. • Develop documentation regarding all aspects of planning and execution. • Consideration of instituting an assistant to the 2nd VP, this will provide a training method for future position holders. • Develop a site plan for utilization of event planning, such as tent, table, display, and parking positioning. • Discussion regarding possible expenditures for pop-up tents and building mounted awnings for use during events (to limit inclement weather impact). • Lack of use of the P.A. system for our speakers at community center was noted as an issue • Next Executive Board Meeting scheduled for Nov. 28th, 7:00 at Seagrave.

Meeting adjourned at 9pm.

Respectfully submitted, Tom Thibault



Pleiades
M45
by Bob Forgiel

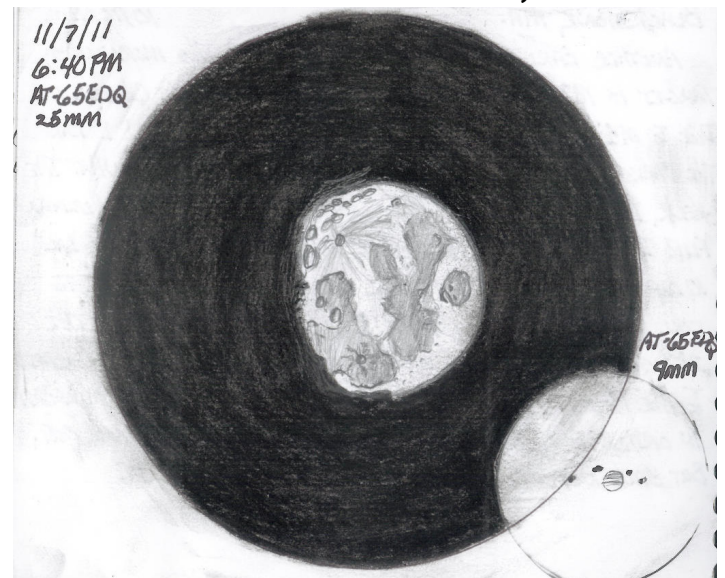


Eagle Nebula "Pillars of Creation"
M16
by Bob Forgiel



Dumbbell
Nebula
M27
by Bob Forgiel

Gibbous Moon
by Tom Thibault



Directions to Seagrave Memorial Observatory

From the Providence area:

Take Rt. 6 West to Interstate 295 in Johnston and proceed west on Rt. 6 to Scituate. In Scituate bear right off Rt. 6 onto Rt. 101. Turn right onto Rt. 116 North. Peeptoad Road is the first left off Rt. 116.

From Coventry/West Warwick area:

Take Rt. 116 North. Peeptoad Road is the first left after crossing Rt. 101.

From Southern Rhode Island:

Take Interstate 95 North. Exit onto Interstate 295 North in Warwick (left exit.) Exit to Rt. 6 West in Johnston. Bear right off Rt. 6 onto Rt. 101. Turn right on Rt. 116. Peeptoad Road is the first left off Rt. 116.

From Northern Rhode Island:

Take Rt. 116 South. Follow Rt. 116 thru Greenville. Turn left at Knight's Farm intersection (Rt. 116 turns left) and follow Rt. 116. Watch for Peeptoad Road on the right.

From Connecticut:

- Take Rt. 44 East to Greenville and turn right on Rt. 116 South. Turn left at Knight's Farm intersection (Rt. 116 turn left) and follow Rt. 116. Watch for Peeptoad Road on the right.
- Take Rt. 6 East toward Rhode Island; bear left on Rt. 101 East and continue to intersection with Rt. 116. Turn left; Peeptoad Road is the first left off Rt. 116.

From Massachusetts:

Take Interstate 295 South (off Interstate 95 in Attleboro). Exit onto Rt. 6 West in Johnston. Bear right off Rt. 6 onto Rt. 101. Turn right on Rt. 116. Peeptoad Road is the first left off Rt. 116.



47 Peeptoad Road
North Scituate, Rhode Island 02857