



The Skyscraper

Vol. 36 No. 2

February 2009

Amateur Astronomical Society Of Rhode Island · 47 PeepToad Road North Scituate, RI 02857 · www.theSkyscrapers.org



Seagrave Memorial Observatory is open to the public weather permitting



Saturdays 7pm - 10pm





Please note that the observatory may be inaccessible for several weeks following a winter storm.

See www.theSkyscrapers.org for updates.

North Scituate Community Center

All of our winter meetings (Dec-Mar) are held at the Community Center. From Seagrave Observatory, the Community Center is the first building on the right side going south on Rt. 116 after the intersection of Rt. 6 Bypass (also Rt. 101) and Rt. 116. Parking is across the street.

February 2009

-  **2** First Quarter Moon
-  **9** Full Moon
- 13** Mercury at greatest Western elongation
-  **16** Last Quarter Moon
- 19** Venus at maximum brightness
-  **24** New Moon
- 25** Ceres at opposition

February Meeting with Dr. Padma Venkatraman

Friday, February 6 at North Scituate Community Center

Dr. Venkatraman is the author of *Climbing the Stairs*, *Double Stars: The Story of Caroline Herschel* and *Women Mathematicians*. She will speak about the life and times of Caroline Herschel and also touch on the struggles that other women pioneers have undergone to achieve their goals.

Dr. Venkatraman is going to bring some of her books to sell and will of course autograph them. Here is the list along with the prices.

1. *Double Stars: The Story of Caroline Herschel* (biography) \$30

2. *Women Mathematicians* (biographies of Maria Agnesi, Emilie du Chatelet, Emmy Noether, Mary Somerville, Ada Lovelace, and Sonya Kovalevskaya) \$30

3. *Mathematwist: Number Tales From Around The World* (multicultural collection of mathematical folktales for children aged 8-12) \$15

4. *Climbing the Stairs* (a novel that has strong women in it but nothing about astronomy or mathematics, but it's the top of my list so I always take it wherever I go) \$20

From the president



The International Year of Astronomy 2009 (IYA2009) has been launched by the International Astronomical Union (IAU) and the United Nations Educational, Scientific and Cultural Organization (UNESCO) under the theme, "The Universe, yours to discover". Thousands of IYA2009 events are described on the national websites. A few of the global projects are listed below. IYA2009 website: www.astronomy2009.org

During 2009, the sky will provide some exciting events, including the longest total solar eclipse of the 21st century, occurring on 22 July 2009 and lasting 6 minutes 39 seconds over a narrow corridor through countries including India, Bangladesh and China. A strong shower of Leonid meteors is also expected in mid-November 2009, with forecasters predicting upwards of an incredible 500 shooting stars per hour. In mid-October in the northern hemisphere, Jupiter will be placed at dusk, a perfect time to show public the giant planet and its moons. These are an impressive sight through even a small amateur telescope.

The Cosmic Diary is an example of a global activity occurring during 2009, with the release of its official website on New Year's Day. The project concerns the daily lives of full-time astronomers. More than 50 bloggers, professionals from over 35 countries and employed by organizations such as ESO, NASA, ESA and JAXA have already begun producing content, writing about their lives, the work they conduct and the challenges they face. Cosmic Diary website www.cosmicdiary.org

365 Days of Astronomy will publish one pod cast per day over the entire year. The episodes will be written, recorded and produced by people around the world. 365 Days of Astronomy: <http://365daysofastronomy.org>

100 Hours of Astronomy, another IYA2009 Cornerstone Project, is a worldwide event taking place from 2-5 April 2009, with a wide range of public outreach activities including live web casts, observing events and more. One of the key goals of 100 Hours of Astronomy is to have as many people as possible look through a telescope, just as Galileo did for the first time 400 years ago.

100 Hours of Astronomy www.100hoursofastronomy.org

The World at Night is an IYA2009 Special Project that is producing and bringing to the public a collection of stunning photographs and time-lapse videos of the world's landmarks with the sky in the background. The World at Night: www.twanight.org

One of IYA2009's aims is to raise awareness of light pollution, and how the beauty of the night sky is progressively being drowned out, particularly over urban areas. The project **Dark Skies Awareness** is tackling these issues head-on in a practical, inclusive manner. One way in which it is doing this is by holding star-counting events, where the public is encouraged to see how many stars in a particular area of the sky are actually visible from their location. Dark Skies Awareness: www.darksbiesawareness.org

IYA2009 seeks to involve the public at large in its activities, and to this end amateur astronomers have been called upon to help organize and run events. Known for their enthusiasm, this army of helpers is growing every day, preparing to promote astronomy in a stunning variety of ways. In fact, so many thousands of people across the globe are already involved, they have formed the world's largest ever astronomy network. Skyscrapers will join the thousands of amateur astronomers worldwide with a kick off presentation by our own Roger Forsythe at the February 6th monthly meeting. This is the year and the time for all members to participate. "The Universe is yours to discover"

—Glenn Jackson, President

Observing Reports

Dec 29, 2008 New England Fireball

Location: Douglas, Massachusetts

Comment: John Kocur: "At 9:30pm EST, I witnessed the complete event. The sky was clear and I was admiring the beauty of the constellations Orion and Canis Major. As I was checking the number of stars I could see in the constellation Lepus, just below Orion. I noticed a small point of light moving through Canis Major. It started to increase in brightness and a meteor trail started to form. It became red/orange in color then white with a green/blue coma around it. The white core became intensely bright and some fragments which looked like sparks were shed from above it as it passed below Orion at which point in a brilliant flash, the bolide lit up the southern sky a dark blue/green color, lit up the ground, and silhouetted the tree line on the southern horizon. Duration was about 3 seconds. I could feel my head track it's perfectly straight path like watching a jet fly by at an airshow. This was the best meteor I have ever seen in my life."

Quadrantids Meteor Shower

Got home about 10:15 pm from January 2 Skyscraper monthly meeting. Had neglected to shovel porch of 8+ inches of snow. Chair had about 4-inches or so of snow. Brushed off with gloved hand. Sat in chair and faced north. Started observing about 10:40 pm, scanning from the north centered on Polaris and through to zenith and occasionally beyond. During session only counted 8 meteors. 6 were Quadrantids while 2 came from a region in or near Auriga. Around 11:15 pm some high thin clouds began to roll in. Hoped to catch a few more meteors through the breaks in the clouds. Soon the clouds thickened from west to east, quickly obliterating event the bright stars of the Winter Circle! Went inside at 11:45 pm. Outside temp was 19.2 degrees F. No wind. Stayed fairly warm. Didn't wear shorts!

Woke up this am to sunrise ... looked out on porch and my observing chair had about 1 to 1 1/2 inches of snow on it.

Apparently after I came in last night it snowed for a brief time!!

At least I didn't fall asleep out there like I did 25 years ago for another meteor shower, then waking up with a coating of snow on me and my associates!!

Report submitted by Dave Huestis.



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.

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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 by February 15 to Jim Hendrickson, 1 Sunflower Circle, North Providence, RI 02911 or email to jim@distantgalaxy.com.

Email subscriptions

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

The Winter Circle

Dave Huestis

I'm sure many of you can recognize a few of the major constellations in the night sky. Many of these star patterns have come down to us from the dawn of the earliest civilizations. Before light pollution began to diminish our view of the heavens, everyone could see these stellar pictograms.

Today we have a great understanding of that heavenly vault of stars. Though they look like they are just out of reach above our heads, these stars are many trillions of miles from our solar system.

While there are 88 officially recognized constellations that fill the skies that surround the Earth, stargazers like to create their own stellar asterisms by combining stars from several constellations.

I'm sure you've heard of the Summer Triangle. This shape is formed by connecting the three bright stars Deneb (in Cygnus), Vega (in Lyra), and Altair (in Aquila). This triangle of stars is high overhead during mid-summer.

Well, the winter sky has its own special asterism, and this one is huge and includes a total of eight bright stars. It's called the Winter Circle or Winter Hexagon. I'll explain why you can get both shapes from the stars.

Please look at the basic star map below which represents the sky in mid-February at 8:00 pm. A circle, or actually an ellipse, can be drawn through each of the labeled stars. However, you can also draw a straight line from one star to the next and create a hexagon. Betelgeuse, though inside either pattern, is still considered part of the asterism.

The winter sky contains many of the brightest stars we can see from the Earth. In fact, the Winter Circle contains 7 of the 23 brightest. And these stars are but a few members of the estimated 200 billion plus stars that comprise our Milky Way Galaxy.

Before we examine each of the stars in the Winter Circle, let's define a couple of important terms. First, a star's brightness is its magnitude. The basic idea is that the more negative the magnitude the brighter the star. The more positive the magnitude the dimmer the star. Second, a star's distance is measured in light years. One light year is equal to just under six trillion miles. Third, the spectral class of a star is

rated using the following letters: O B A F G K M, and often followed by additional numbers and letters to further refine the classification. "O" stars are the hottest while "M" stars are the coolest.

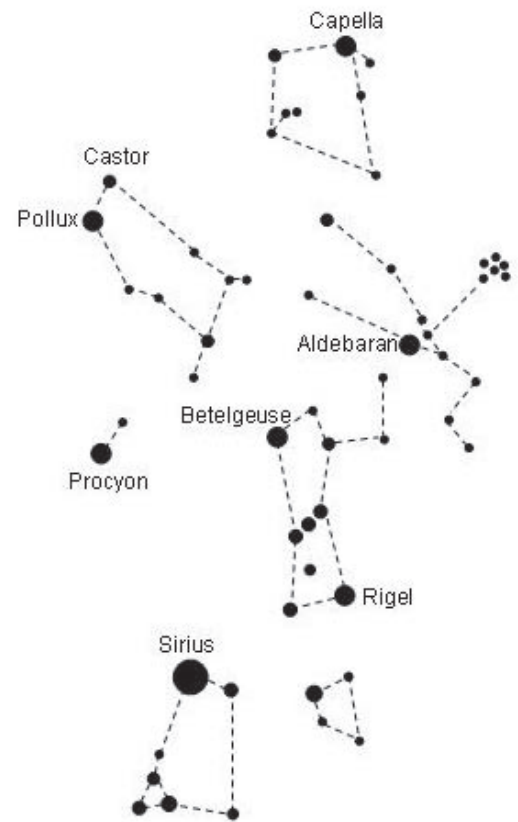
Please reference the star map so you too can locate the stars of the Winter Circle. The map represents the night sky in mid-February at 8:00 pm, looking from a point directly overhead towards the southern horizon.

Let's start our tour with the brightest star we can see in the sky (besides the Sun of course) - Sirius. Sirius is in Canis Major, the Big Dog. Sirius shines at magnitude -1.44 and it is 8.7 light years away. Do the math and this fairly close neighbor to our Sun is 52.2 trillion miles from us. For you Rhode Islanders that's much farther than Woonsocket or Westerly! Sirius is a hot, blue-white star (spectral class A0) about 1.7 times the diameter of our Sun.

Next we move northward and clockwise in the sky to locate Procyon in Canis Minor, the Little Dog. Procyon is a white star (F5) shining at magnitude +0.40 and is 11 light years distant. It's about twice the diameter of our Sun. Moving further northward we encounter the Gemini twins, Pollux and Castor. Pollux is 34 light years distant, while Castor is 18 light years farther away at 52. Pollux is a cool, orange giant (K0) ten times the Sun's diameter, while Castor is a hot, blue-white star (A1) only twice the diameter of the Sun. Pollux and Castor shine at +1.16 and +1.93 magnitude respectively.

Now we swing up and over to a constellation almost directly overhead--Auriga, where we find +1.93 magnitude Capella. While Capella (G6) is a class "G"-type yellow star like the Sun (G2), it has three times more mass and is just over seven times the Sun's diameter. Next we proceed south to encounter the orange giant (K5) Aldebaran in Taurus. Aldebaran represents the bull's eye in the star pattern known as the Hyades star cluster (looks like a "V"). Aldebaran, 65 light years away, is a cool star which has expanded to be just over 44 times the diameter of the Sun with only 2.5 times our Sun's mass.

Continue to swing southward in the sky until we arrive at the bottom right star representing Orion's left foot. (Please note: Orion is facing us.) This star is +0.18



Stars of the Winter Circle in mid-February at 8pm. The brightest star in our sky, Sirius, will be easily identified above the southern horizon, while Capella will be almost directly overhead. Star map created by Dave and Tina Huestis.

magnitude Rigel, a blue supergiant (B8) 800 light years away - the most distant of the Winter Circle stars. Rigel is 62 times the diameter of our Sun and contains 17 times more mass. We now complete the tour of the Winter Circle by swinging back to Sirius.

But wait. No, I didn't forget about Betelgeuse. Betelgeuse is the red supergiant (M2) star that marks the top right shoulder of Orion. It shines at magnitude +0.45 and resides at a distance of 520 light years. Betelgeuse is also a very large star, measuring in at a conservative 950 solar diameters. If you replaced our Sun with Betelgeuse it would extend out to the asteroid belt between Mars and Jupiter.

As you can see by this small sampling of stars that comprise the Winter Circle, stars are quite a lot like people. They are all different, but their differences make them unique and important.

The next time you have an opportunity to observe the Winter Circle you will have a better understanding and appreciation of the scale and diversity of our stellar neighbors in this region of the Milky Way Galaxy.

Keep your eyes to the skies.

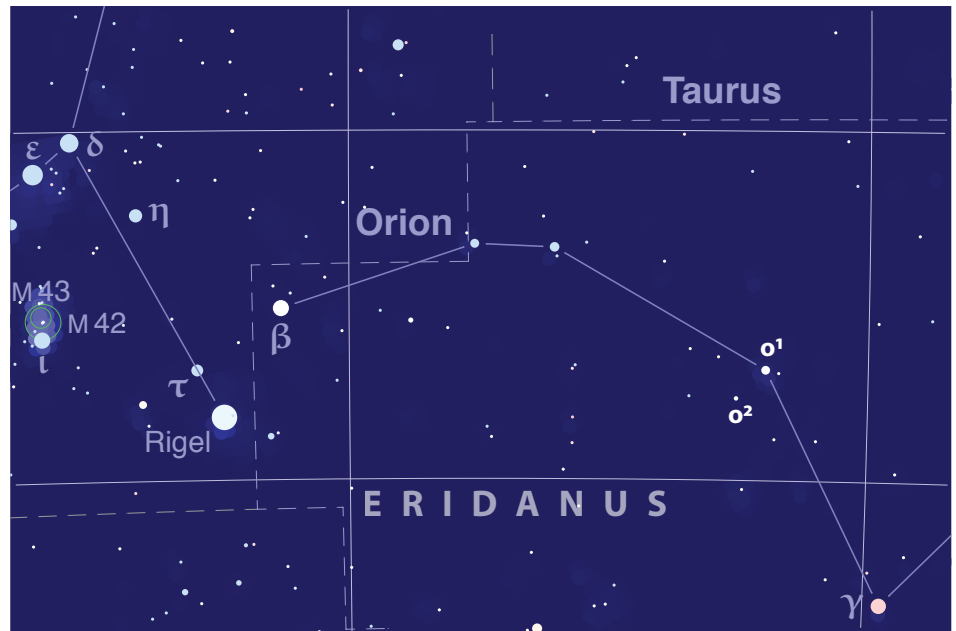
A White Dwarf You can Actually See!

Craig Cortis

Many of us have tried to spot the legendary faint companion to Sirius known as Sirius B, the so-called “Pup” star. Unfortunately, although separation in arc-seconds is now about 8.3” and is gradually widening, the brilliance of the primary (about 10,000 times brighter than its famous companion) usually washes out the white dwarf. True, there are a few observing tricks you can try to enhance your chances of resolving the B star and some observers occasionally report success in so doing, but it seems fair to say that only a very small percentage of amateurs will ever be able to claim they’ve glimpsed this well-known star. The year 2022 will offer the best opportunity, because it’ll be then that the magnitude 8.6 white dwarf moves to its most distant apparent position from the primary during an orbit calculated to be 50.1 years. Separation should then be just over 11”.

The inherent fascination of white dwarf stars owing to their exotic physical properties makes them highly prized observing targets for savvy amateurs. Information on such stars is readily available in a number of sources, so I’ll forego using much space here to outline the astrophysics, history of research, and history of observation relative to this stellar class, to which our own Sun will eventually belong. I should note, though, that about 53 years passed from the first actual observation of Sirius B in a telescope to the year in which its spectral type and estimated surface temperature were deduced, thus officially identifying the star—finally—as a white dwarf. (This confirmation by spectroscopy came about in 1915; the “Pup” had been seen by Alvan Clark’s son in 1862 during testing of a new 18.5” lens for a refracting telescope. The visual discovery was confirmed later that year, at Harvard.)

White dwarfs are hard to see because they’re generally rather dim, having low luminosity despite very high surface temperatures. This, in turn, is due to such small sizes that the total surface area of these stars is tremendously smaller than, for example, our



own Sun. Average diameter for a white dwarf is thought to be about the size of Earth, plus or minus. Total luminosity radiated is thus far, far less than much larger stars. Add in a bright, close-by binary companion (as is the case for Sirius and Procyon) and a white dwarf becomes nearly invisible!

One particular star in northern Eridanus has a white dwarf companion that’s easy to spot, even in a small telescope. In fact, this dwarf is regarded as by far the easiest of its type to see in the entire sky, from even Ladd Observatory in Providence!

Approximately 14° due west of Rigel (Beta Orionis) amid the hard-to-identify chain of stars forming the dim outline of the mythical river Eridanus is a wide, naked-eye pair of similar brightness stars oriented diagonally to our view in February. The star at the northwest end of this pair is Omicron 1 Eridani, also called 38 Eri. It is magnitude 4.0 and is 0.4° east of a fainter star of magnitude 5.5 or so.

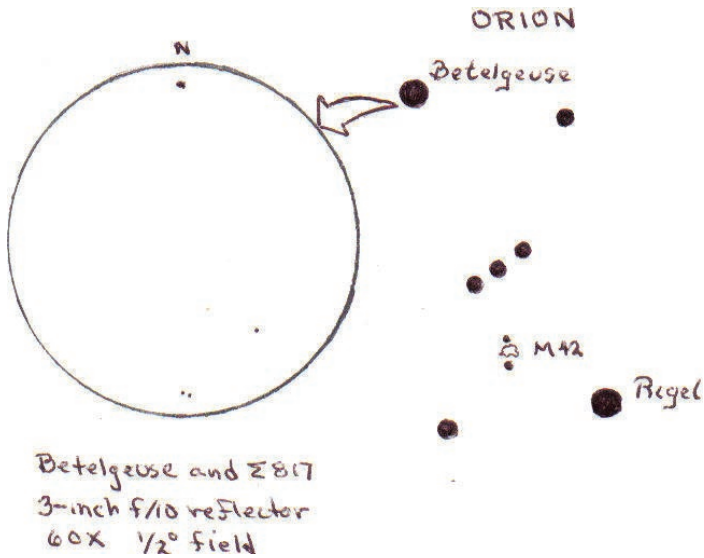
The other star at the southeast end of this diagonally arranged pair, about 1.2° away from Omicron 1, is our star of interest, Omicron 2 Eridani, also called 40 Eri. Position is RA 04h 15.3m, Dec. -07° 39’, magnitude 4.43. At a generous distance of 83” away will be seen Omicron 2B, confirmed positively as a white dwarf in 1910, the very first such star to be recognized as such

through spectroscopy. Robert Burnham describes the history of observation in the chapter on Eridanus in volume 2 of his *Celestial Handbook*, always a good read even though information in his classic work is current only to 1977. Magnitude of the B star—the white dwarf—is 9.8.

There’s yet a third member of this system, a red dwarf of magnitude 10.8 at about 7.5” distance from Omicron 2B. The B-C pair has a period of around 250 years, while that of the A-B pair is thought to be over 7,000 years. Although a more difficult pair to make out, the B-C pair is fairly well seen in 4” scopes. So, now you’re up-to-date on how to find and actually see a white dwarf star—I hope you’ll find some enjoyment and interest in so doing. By the way, dwarfs at the centers of planetary nebulae are seldom seen in amateur-class scopes, but perhaps the best such object featuring the easiest seen central star is the Eskimo Nebula in Gemini, NGC 2392. (See the chapter on Gemini in Burnham’s volume 2.) My good friend Tim Dube, a planetary nebula guru from Douglas, Massachusetts, enthusiastically agrees with this choice.

Sky Object of the Month: Struve 817 Orionis

Glenn Chaple



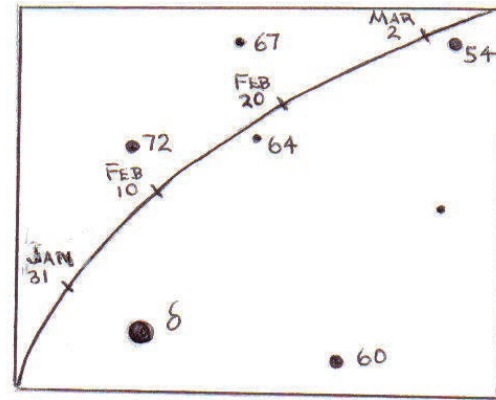
I'm a big fan of "off-the-beaten-path" sky objects. One of my favorites is the little-known double star Struve 817 - the 817th double star catalogued by the German-born Russian astronomer F. G. W. Struve during a survey conducted between 1824 and 1827. According to a measure made in 2004 and posted in the Washington Double Star Catalog, Struve 817 consists of near-twin magnitude 8.7 and 8.9 stars separated by 18.8 arcseconds in a position angle of 73° . The separation and P.A. differ little from what Struve himself measured around the time of discovery. Double star astronomers describe stellar partnerships that show little relative motion as being "relatively fixed." If the component stars of Struve 817 form a true binary pair, their orbital period must encompass many centuries.

What gives this relatively obscure double star a special allure is its location, less than a half degree south of the red supergiant Betelgeuse. To find Struve 817, simply aim your telescope at Betelgeuse. A medium power eyepiece (75 to 100x works well) should capture this delicate pair shining bravely beside the dazzling ruddy Betelgeuse. It's a startling contrast. Speaking of contrast, the Washington Catalog lists the spectra of Struve 817's components as A5 and K. Can you make out a color contrast between the two?

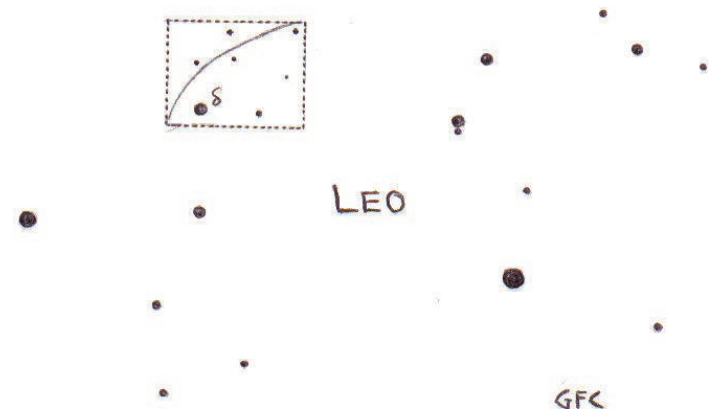
Some years ago, I wrote a four-part series for Deep Sky Magazine in which I introduced my favorite 100 double stars. Included with such celebrated pairs as Mizar, Albireo, and the "Double-double" epsilon Lyrae was Struve 817. On the next crisp winter night when Orion beckons you to visit his magnificent Nebula, take a minute to travel a road less taken and try for this delightful double star.

Sky Object of the Month: Ceres

Glenn Chaple



CERES



What makes amateur astronomy such a wonderful hobby is the diversity of activities it offers. We can make telescopes, dabble in astrophotography, or simply go outside with binoculars and notch a few Messier objects. One of my favorite astronomical pastimes is observing asteroids. There are plenty to see - I've glimpsed over a hundred with an ordinary 3-inch reflecting telescope.

As the name implies, an asteroid is starlike in appearance, giving it a low score on the "wow" scale. In fact, you can't be 100% sure you actually spotted an asteroid until you return outside an evening or two later to verify that the suspected object moved relative to the background stars. If it has, you've notched another asteroid. It's the astronomical equivalent of rock collecting.

The largest of these cosmic rocks is Ceres. Approximately the size of Texas, Ceres was the first asteroid discovered, having fallen to the Italian astronomer Giuseppe Piazzi on January 1, 1801. Originally considered to be a planet, Ceres was downgraded to minor planet status when more of these tiny worlds were discovered in the gap separating Mars and Jupiter. In the summer of 2006, the International Astronomical Union (IAU) formally drafted a definition of planet. Ceres was reclassified as a "dwarf planet."

During February, Ceres will be cruising through Leo, reaching 7th magnitude around the time of opposition on the 25th. You should have little trouble spotting it as long as you use good binoculars and the finder chart on this page. Don't be disappointed should you fail to see anything more substantial than a tiny stellar speck. Even when scrutinized with the Hubble Space Telescope or large earthbound telescopes enhanced with adaptive optics, Ceres reveals precious little surface detail.

That situation is about to change. On September 27, 2007 NASA launched the Dawn Mission. It will reach the asteroid Vesta two years from now and rendezvous with Ceres in 2015. Astronomers will at last have an in-depth look at these little worlds. Until then, binoculars or telescopes are your only ticket to asteroid adventures. Whatever you call it - asteroid, minor planet, or dwarf planet - Ceres is a worthwhile first specimen for your cosmic rock collection.

Star Party Report

Bob Forgiel

Hello fellow Skyscrapers,

Thanks again to everyone that attended last night's event at the Alton Jones Campus. This was our second event for the Woman's Wilderness Weekend in the past four months and as last time, a big hit with their group.

I hope everyone had a chance to meet Brian whom is not yet a member but has been in contact with us and wanted to help out with some of our events. I guess it was sort of trial by fire, or should I say frost bite. I'm sure we will be seeing more of him in the future at meetings and other events.

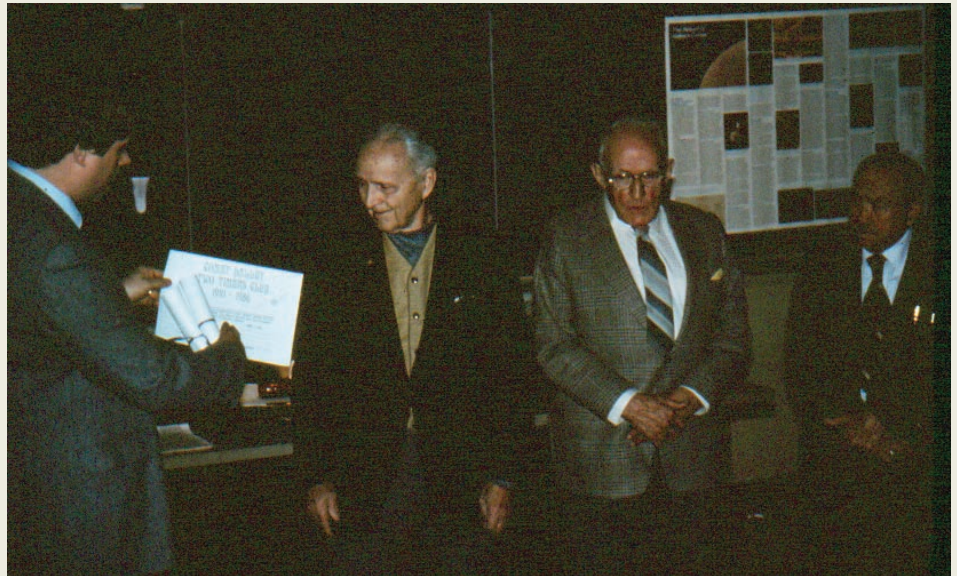
The temperature last night kept the event down to just over an hour instead of hours but the temp held in the upper teens for the duration of the event. It was better than predicted although I can say just up the road a bit it did fall to 4.8 degrees by morning.

In attendance were Bob Forgiel, Glenn Jackson, Jim Hendrickson, Joe Sarandrea, Jack Szelka, Dolores Rinaldi, Jim Brenek, (new to be members) Brian Medeiros and friend Larry.

Thanks again everyone & keep warm.

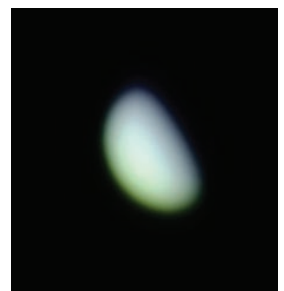


C/2007 N3 Lulin taken on the morning of Jan. 17 (temp. one below 0!). The comet is in Libra and brightening. It seemed around 8th mag. on this morning. Taken from Rehoboth, Massachusetts. Sony DSC F 717, 120mm refractor, afocal through 40mm EP (25x with camera slightly zoomed). Photo by Bill Guca.



From the Archives: Then Skyscrapers Historian Dave Huestis presents special awards to Halley's Comet "two-timers" (left to right: Earl Benton, Charlie McFadden and Louis Richardson).

Venus: C11-SCT, Orion Starshoot Solar System Color Imager, 8 image stacked composite, processed with Maxim DL and Adobe Photoshop. Photo by Tom Thibault.



Crescent Moon – 12/31/08! C11-SCT with a 6.3 Focal reducer; Iriion Starshoot Solar System Color Imager, 4 image mosaic, processed with Maxim DL and Adobe Photoshop. Photo by Tom Thibault.



Severe Space Weather

by Dr. Tony Phillips

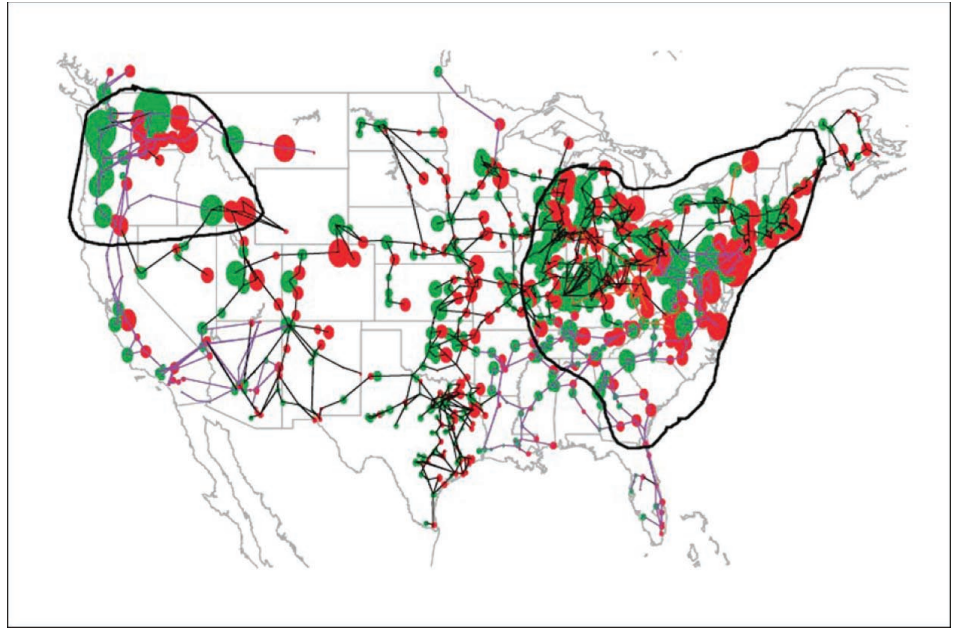
Did you know a solar flare can make your toilet stop working?

That's the surprising conclusion of a NASA-funded study by the National Academy of Sciences entitled *Severe Space Weather Events—Understanding Societal and Economic Impacts*. In the 132-page report, experts detailed what might happen to our modern, high-tech society in the event of a "super solar flare" followed by an extreme geomagnetic storm. They found that almost nothing is immune from space weather—not even the water in your bathroom.

The problem begins with the electric power grid. Ground currents induced during an extreme geomagnetic storm can melt the copper windings of huge, multi-ton transformers at the heart of power distribution systems. Because modern power grids are interconnected, a cascade of failures could sweep across the country, rapidly cutting power to tens or even hundreds of millions of people. According to the report, this loss of electricity would have a ripple effect with "water distribution affected within several hours; perishable foods and medications lost in 12-24 hours; loss of heating/air conditioning, sewage disposal, phone service, fuel re-supply and so on."

"The concept of interdependency," the report notes, "is evident in the unavailability of water due to long-term outage of electric power—and the inability to restart an electric generator without water on site."

It takes a very strong geomagnetic storm to cause problems on this scale—the type of storm that comes along only every century or so. A point of reference is the "Carrington Event" of August-September 1859, named after British amateur astronomer Richard Carrington who witnessed the instigating solar flare with his unaided eye while he was projecting an image of the Sun on a white screen. Geomag-



On this power-grid map of the United States, the black-circled areas are regions especially vulnerable to collapse during an extreme geomagnetic storm. Inside those boundaries are more than 130 million people. Credit: National Academy of Sciences report on severe space weather.

netic storms triggered by the flare electrified telegraph lines, shocking technicians and setting their telegraph papers on fire; Northern Lights spread as far south as Cuba and Hawaii; auroras over the Rocky Mountains were so bright, the glow woke campers who began preparing breakfast because they thought it was morning!

"A contemporary repetition of the Carrington Event would cause ... extensive social and economic disruptions," the report warns. Widespread failures could include telecommunications, GPS navigation, banking and finance, and transportation. The total economic impact in the first year alone could reach \$2 trillion (some 20 times greater than the costs of Hurricane Katrina).

The report concluded with a call for infrastructure designed to better withstand geomagnetic disturbances and improvements in space weather forecasting. Indeed, no one knows when the next super solar storm will erupt.

It could be 100 years away or just 100 days. It's something to think about ... the next time you flush.

One of the jobs of the Geostationary Operational Environmental Satellites (GOES) and the Polar-orbiting Operational Environmental Satellites (POES) operated by NOAA is to keep an eye on space weather and provide early warning of solar events that could cause trouble for Earth.

You can keep an eye on space weather yourself at the National Weather Service's Space Weather Prediction Center, www.swpc.noaa.gov. And for young people, space weather is explained and illustrated simply and clearly at the SciJinks Weather Laboratory, scijinks.gov/weather/howwhy/spaceweather.

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

January Meeting Notes

Friday, January 2, 2009; North Scituate Community Center

Steve Hubbard

Minutes from January 2, 2009 monthly meeting as scribbled by Steve Hubbard while also trying to run the meeting, introduce the speakers, set up the coffee, snacks and everything else.

We had 4 speakers for member's night:

Dave Hurdis spoke about a visit to William Herschel's house in Bath England

Tom Thibault spoke about his recently finished home observatory

Craig Cortis spoke about observing from the Everglades

Dick Parker gave a talk and hands on presentation about telescope mirror making

We then took a break and after the members gorged themselves on various fattening, salty and otherwise unhealthy, yet tasty snacks the meeting got underway by about 9:30pm or so.

Secretary was absent, but the report was accepted.

Treasurer's report was deferred due to not having gotten into the Skyscraper in time. The treasurer, Jim Crawford was at the meeting however and gave everyone a verbal rundown.

1st VP Steve Hubbard gave a rundown about upcoming speakers for the next few months. He has also been in discussion with Dr. Kristine Larsen who spoke at our December meeting about a return to Skyscrapers in July with another topic. She is strongly in favor of this and checking her calendar.

2nd VP Kathy Siok. No report

Historian Dave Huestis: No report

Librarian Tom Barbish: Thanks to Jim Crawford for the donation of 7 DVD's with various past talks at

Skyscrapers given by some of our speakers taken by Jim.

Star Party Coordinator Bob Forgiel: Gave a rundown on various upcoming events, asked for volunteers.

Trustees Tracey Haley: Seagrave closed tomorrow due to snow. Nothing else to report.

New Business: none

Old Business: Kenneth Botelho and family and **Peggy Sati** were accepted into membership. Neither party in attendance.

Good of the organization:

Sam has been videoing many of our talks and putting them on YouTube.

John Kocur saw the extremely bright "New England" Fireball on the night of December 29 at around 9:30pm. Traveling stately across the southern sky, it left a trail, started off reddish orange and at one point got bright enough to light up the surrounding area with a bright light similar to that given off by lightening.

Bill Guca claimed to have missed seeing the fireball by 5 minutes.

Presidential announcements:

Membership list purged by E Board

Security at Seagrave's still remains an issue. Gate unlocked Monday, 12/29/2008. Members all reminded to be very mindful of security.

Motion to adjourn at around 10pm. Accepted gratefully and as quickly as possible by acting president, Steve Hubbard

Treasurer's Report

4/1/2008 through 1/23/2009

Jim Crawford

INFLOWS	
75th Yr T-Shirt Sales	345.00
Astroincome	
Astro-banquet	1,139.00
Astro-grille	552.50
Astro-misc	18.00
Astro-raffle	730.00
Astro-registration	1,420.00
TOTAL Astroincome	3,859.50
Bookincome	
75th Anniversary Book 1st Print	450.00
75th Anniversary Book 2nd Print	660.00
TOTAL Bookincome	1,110.00
Cookoutinc	405.00
Donation	406.50
Dues	
Contributing	135.00
Family	800.00
Junior	10.00
Regular	2,140.00
Senior	340.00
TOTAL Dues	3,425.00
Interest Inc	270.04
Magincome	
Astronomymaginc	306.00
Skytelmagincome	296.55
TOTAL Magincome	602.55
Magsales (Library)	8.80
Preservation Fund	10.00
Starparty	716.00
TOTAL INFLOWS	11,158.39
OUTFLOWS	
75th Yr T-Shirt Exp	572.56
Astroexp	
Astro food Fri-Sat	39.46
Astrocater	980.00
Astrogrille	212.40
Astromisc	86.72
Astrorestroom	175.00
Astrowine-cheese	125.15
Tentrental	585.00
TOTAL Astroexp	2,203.73
Astronomy Day	30.12
Cash	0.00
Charity	25.00
Clarkproject	513.50
Collation	470.53
Cookoutexp	677.08
Corporationfee	20.00
Insurance	2,410.00
membersubscriptions	
Astronomymagexp	306.00
Skytelexp	296.55
TOTAL membersubscriptions	602.55
Postage and Delivery	194.75
Presidents Fund	60.16
Printing and Reproduction	802.50
Trusteexp	1,759.19
Utilities: Electric	127.66
TOTAL OUTFLOWS	10,469.33
OVERALL TOTAL	689.06
Checking Acct Balance	3,065.61
Capital One Acct Balance	16,116.60



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, RI 02857

