SIRIUS ASTRONOMER

www.ocastronomers.org

The Newsletter of the Orange County Astronomers

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Are you ready for the Messier Marathon this month? You too can find M78, along with 109 other great deep-sky objects, in one night with a lot of persistence and endurance. This image of M78, part of the Orion Complex, was captured by Alan Smallbone during the course of three observing sessions in January and February of this year.

OCA CLUB MEETING

The free and open club meeting will be held March 11th at 7:30 PM in the Irvine Lecture Hall of the Hashinger Science Center at Chapman University in Orange. This month, Dr. Ed Krupp will present his talk, 'Times Up'.

NEXT MEETING: April 8

STAR PARTIES

The Black Star Canyon site will be open on March 26th. The Anza site will be open on March 5th. Members are encouraged to check the website calendar, for the latest updates on star parties and other events.

Please check the website calendar for the outreach events this month! Volunteers are always welcome!

You are also reminded to check the web site frequently for updates to the calendar of events and other club news.

COMING UP

The next session of the Beginners Class will be held on Friday, March 4th at the Centennial Heritage Museum at 3101 West Harvard Street in Santa Ana. Next month the class will be offered on April 1st.
GOTO SIG: TBA
Astro-Imagers SIG: Mar. 15th, Apr. 19th
Remote Telescopes: TBA
Astrophysics SIG: Mar. 18th, Apr. 15th
Dark Sky Group: TBA

Around OCA

By Barbara Toy

For some reason, Jim Benet felt I should submit further columns on what's going on around the OCA, at least as seen from my perspective. For better or worse, Jim – this column is for you.

While on the topic of Jim Benet, most of you are familiar with him as our Outreach Coordinator, a position he has held with distinction since before I joined the club in 1999. He has also been a major factor in getting people more involved in club activities than they expected when they joined, partly through his enthusiasm for outreach work, which is very contagious. He has a knack for spotting people who would be good Board members and for giving appropriate encouragement to get them to run – Craig Bobchin, our current president, and I, and many more Board members over the years, got involved in club management through Jim's encouragement and the Outreach Program, to the benefit of us all.

Of course, the Outreach Program is one of the club's major ongoing efforts, giving schoolchildren and their families the chance to see a bit of what's up there for themselves through the eyepiece of a telescope brought by one of our Outreach volunteers during those events held at various schools in Orange County throughout the school year, and extending that to members of the general public at events we have at various parks and other locations as well. We have a constant need for volunteers for this program, as the requests for these events keep increasing – it's amazing just how much interest there is among the people around us in seeing whatever we can show them, particularly if we can tell them something about what they're seeing to help them put it in context.

If you can volunteer for an evening to bring a telescope or astronomical binoculars out to one of these events, it would be a real help to us and, if you're like most of us, you'll find the experience exhilarating, rewarding, and simply fun. The best person to contact for more information about the program is Jim Benet (see the Contacts list on the website or back of the Sirius Astronomer), but feel free to talk to any of us who've done outreach events – that would include most people on the club's contact list and a lot of people on the club's general email group, ocastronomers@yahoogroups.com.

Update on the Kuhn

For those of you who may not have made its acquaintance yet, the Kuhn telescope is one of the treasures of the OCA. It is a 22-inch custom-built Cassegrain telescope that is permanently mounted in the club observatory at Anza. I am the current Observatory Custodian, meaning that I'm the person currently primarily responsible for the telescope and the observatory. Fortunately for me, others, most notably Rick Wiggins, who has Star Cruiser Observatory next to the club observatory, Joe Busch, who has an observatory on the main member observatory level, and Don Lynn, who is the Anza Site Custodian in addition to his many other activities for the club, have helped to maintain the observatory bathroom over the last few years, and I would like to publicly thank them for their help, and also to thank anyone else who has helped out that I may not know about.

The Kuhn telescope itself has gone through a lot of changes over the last ten years. About six or seven years ago, Dave Radosevich reconditioned the scope after it completely died, which included putting in new drive motors and a new control system. Since then, we have been fine-tuning it, the observatory itself got a new roof structure (thanks to the creativity and energy of Dave Radosevich, Jim Hannum, John Kerns, and the able crew they put together), and everything is now working well and reliably – at least for viewing through the eyepiece.

A number of people have expressed interest in using the Kuhn for imaging, which presents a different set of challenges, one of which is setting it up for proper guiding. Fortunately, as I don't have the necessary expertise myself, there are others who have been helping out, most notably Pat Knoll, who has taken the Kuhn and me under his capable wing and has been, among other things, putting together a new hand controller that will give us the necessary controls for guiding.

We still needed an appropriate guide scope, and Joe Busch kindly donated one, a 5-inch Meade refractor, over a year ago, but we didn't have an appropriate mount for it. We recently had two Losmandy dovetail rails become available, and Joe generously provided rings so we could use them to mount the 5-inch and re-mount the existing 4-inch finderscope. However, to mount these required taking off existing equipment, drilling and tapping a number of new holes in appropriate locations, then re-balancing the scope when both of the refractors were mounted on top. The balancing part of the process proved even more challenging than expected, and Joe ultimately also donated a set of weights and mounting assembly to help with this.

Pat recruited a fine team for this project, which included Trey McGriff and Wayne Peters as well as Joe Busch, and we all met at the observatory early on February 5. Thanks to the new moving roof assembly, which gives us a lot of working area inside even with the roof closed, we were able to point the Kuhn straight up without opening the roof, which made doing the work a lot easier. Wayne, who is not a club member but who has helped out at the observatory several times before, brought a well-stocked tool box and was in charge of the drilling and tapping, which all went very smoothly. Joe assembled the rings, and he and Trey pitched in where needed as the work progressed. Besides supervising the installation work, Pat took the opportunity to clean, re-lube and readjust the dec drive, which had to be disconnected during the work and the rebalancing, and he and Trey also took one of the 12-inch Meade LX-200s in the observatory apart to clean and re-lube the focusing mechanism – which was a revelation in itself, as I'd never seen one disassembled.

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TOP TWENTY THINGS AN ASTRONOMER SHOULD SEE

7 The Aurora

By Helen Mahoney

The aurora borealis as seen from Chena Hot Springs, Alaska by Melody and James Oxman, March 2003. This is a film image using a Minolta SRT 202 with Kodak ASA 400 film and a 28mm wide-angle lens at f/2.8.

It's called the Aurora Borealis or Northern Lights in the northern hemisphere. It is also seen in the southern hemisphere as the Aurora Australis, and is even seen on Jupiter and Saturn. The phenomenon called the aurora, after the Roman goddess of the dawn, is a beautiful display of dancing lights in the sky. The spectacle originates from the sun. As I mentioned in the article about solar observing, the corona has magnetic activity, and when the magnetic bands snap, the event—called a coronal mass ejection (CME)—sends large numbers of charged particles into space. Those directed at earth are deflected by earth's magnetic field, and eventually some of them enter the atmosphere at the poles. The particles excite atoms in the ionosphere, and these charged particles emit a photon of light when they return to their ground state.

Seeing the aurora is about being in a place where you can see them, and at the right time. Although they can be seen in the southern hemisphere (and on other planets), for most of the Sirius Astronomer readers, it is much easier to get to a good location in the northern latitudes. The aurora is best seen in an oval around each magnetic pole, usually extending from 60 to 72 degrees in latitude. They are seen to a lesser degree at lower latitudes, often into Washington and Minnesota, depending on the solar activity.

The timing is just as important as the location. First, it is best to go during a time when the solar activity is high, as that will mean more particles hitting the earth, and better chance for aurora. The trips my husband Doug and I made in 2000 and 2002 were timed with the double peaks of the last solar cycle. It looks like the solar activity is increasing this year, on its way to another peak, so it should be a good year for aurora viewing. Second, the time of year is important. In the summer, the higher latitudes have very short nights, so not much aurora observing time. In the winter, there are long nights, but clouds can block out the show. There is a sweet spot in the late winter/early spring.

Doug did the research and chose the third weekend in March in 2000 for our first trip to Fairbanks, Alaska. We also scheduled red-eye flights in and out, so we could see aurora from the air in case of clouds. We were pleasantly surprised to find out that Fairbanks was having an ice carving festival and sled dog mushing race (the Open North American Championship) that same weekend, so there was plenty to do in the daytime. But the night was even better, and did not disappoint. I was on look-out, putting on my best layered star party attire and going out into the cold (ten degrees Fahrenheit), every half hour to check for aurora. At about 11 pm, there was an odd yellow-green glow on the horizon. At first my city brain assumed it was a light dome from a distant city, but there were no big cities out there. Then it began to lift up, stretch out, and wiggle like a snake. Directly above our heads, a yellow glow appeared. It began to swirl, and soon looked like a large yellow galaxy. As it continued to swirl, it expanded, until there was a huge spiral spanning 90 degrees across the sky.

I had seen videos of aurora, and always assumed that they really moved slowly—like clouds—and that their motion was much accelerated in the videos. When I saw them in person, I was amazed at how fast they actually moved. Streaks of green and pink lights filtered down like water over a waterfall. Some of them then shot sideways rapidly. The show lasted for hours, and then faded away.

Pictures and videos of aurora show its beauty, but they don't come near the dynamic experience of being there underneath the lights. This year, the solar activity is high, the aurora should be great. Time to make travel plans.

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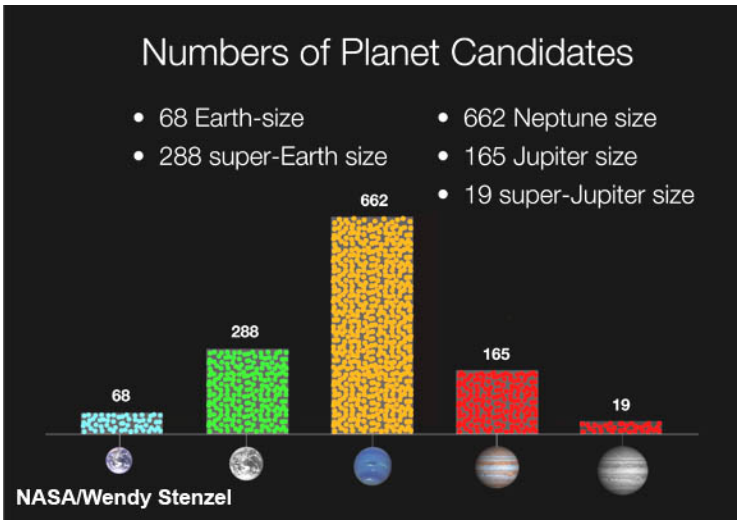
AstroSpace Update

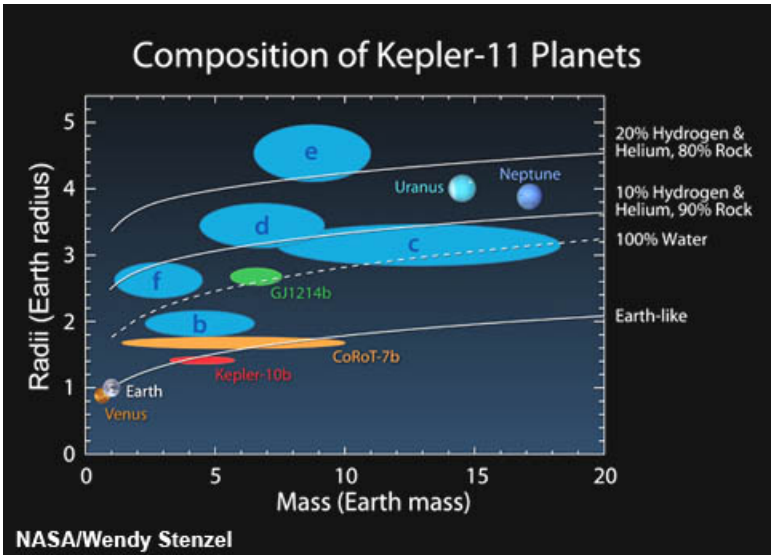
March 2011

Gathered by Don Lynn from NASA and other sources



Kepler (planet hunting space telescope) has found dozens of Earth-sized exoplanets (planets outside our Solar System). They are part of the announcement made February 2 of 1235 probable newly-found planets. They are termed "probable planets" or "planet candidates" because some other objects (such as brown dwarfs) can masquerade as planets to Kepler. It is expected that the laborious process of checking out these candidates by other types of observations will show that roughly 4 out of 5 of them are indeed planets. Since Kepler finds planets by seeing stars dim slightly during passages of planets in front of them (transits), the data yields the diameter of each planet. The diameters of the newly found exoplanets were broken down into 5 groups: Earth-sized, super-Earth, Neptune-sized, Jupiter-sized, and larger. The super-Earth term has been invented to fill the gap between Earth and Neptune, where no planets exists in our own Solar System, but such planets are plentiful among exoplanets. The number of planets in each group is shown in the graph. All groups are plentiful, with Neptune-sized being most common. Smaller planets than Earth-sized probably exist in substantial numbers, but Kepler is not sensitive enough to find them. 170 of the stars with the probable planets appear to have multiple planets. It is expected that many more have multiple planets, but they are not aligned to produce transits, or have long enough periods so that transits have not yet been seen. Of these newly discovered planets, 54 are orbiting at distances from their stars where the temperature should allow liquid water to exist. This area has been dubbed the habitable zone, since scientists believe life can develop only in plentiful liquid water on a planet (or possibly large moon). 5 of those 54 are Earth-sized. Because Kepler has not observed long enough, it has not yet found any probable planets with periods (years) longer than 100 Earth days. Kepler is continuously monitoring 156,000 stars that cover only about 3% of the Milky Way that can be seen from Earth.

Also included in the **Kepler** discoveries is a Sun-like star with 6 (confirmed) planets. This is the largest planetary system found by the transit method. The star has been designated Kepler-11. It is about 2000 light-years away. All 6 planets' orbits are smaller than Venus's orbit, so they are bunched much closer to their star than planets in our Solar System. This surprised astronomers, and they ran a computer simulation to confirm that such a configuration remains stably orbiting for millions of years. An interesting aspect of orbiting so close is that the inner 5 planets substantially perturb each others orbits, resulting in transits that were many minutes later or earlier than expected. Measuring these timing changes allowed calculating the masses of the planets. Those masses range from 2.3 to 13.5 times the Earth's mass. While these are smaller than any of the gas planets in our Solar System, the densities obtained for the newly found planets implies that they have substantial volumes of gas, though with sizable rocky cores. Generally rocky material makes up most of their masses, while gas makes up most of their volumes.



Exoplanet tilt – A research team using the Subaru Telescope in Hawaii has measured the tilt of 2 more exoplanets' orbits to their stars' equator and found both highly tilted. When a planet transits its star, it blocks more blue-shifted light as it passes in front of the approaching edge of the rotating star, and more red-shifted light in front of the receding edge. This is called the Rossiter-McLaughlin effect. By careful measurement of this effect on the star's spectrum, astronomers can calculate the tilt angle of the orbit. Planet formation theory says that planets form in the plane of a stars equator. That theory also shows where planet-building material exists, and thus where planets form. Most transiting (and radial velocity) exoplanets known are much too close to their stars according to that planet formation theory. Thus there are a few theories on how planets can migrate their orbits closer (or in some cases farther) to their star. Some migrations preserve the plane of the orbit, and some tilt the orbit. With only a few exoplanet orbital tilts measured so far there is not much evidence, but adding 2 more tilted ones is beginning to make the theories that migrate while preserving tilt look pretty unlikely. The principle one of these is that drag from the disk of planet-formation materials causes the migration of the planet inward. Don't bet any money on that theory. The migration theories remaining are 1) close encounters of

planets, causing scattering, and 2) Kozai migration, where long-term repeated gravitational interactions slowly cause orbital changes. Either of these can induce orbital tilt. A much larger sample of measured tilts may allow distinguishing which of these theories holds.

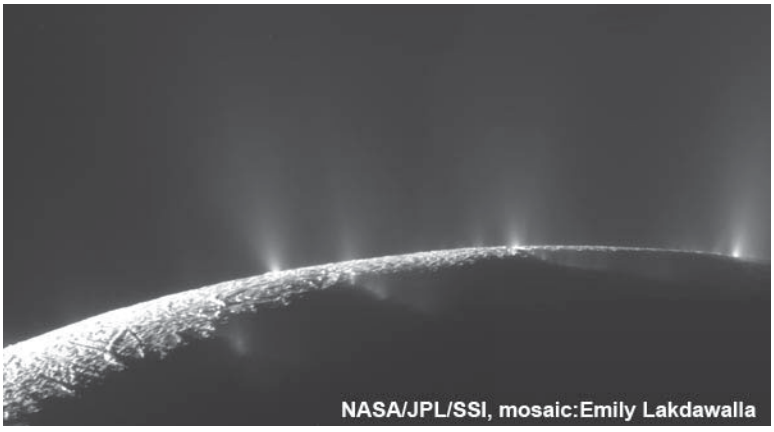
Mars Reconnaissance Orbiter has repeatedly imaged certain sand dune areas on Mars to detect changes over the past 2 Martian years. This study has found both sudden and gradual changes. These areas are proving to be among the most actively changing places on the planet. Before this study, scientists had considered the dunes to be fairly static, shaped long ago when surface winds were much stronger than now. 2 agents of change have been identified: seasonal coming and going of carbon-dioxide (dry) ice and stronger-than-expected wind gusts. A seasonal layer of dry ice blankets the region in winter and changes directly back to gas in the spring. This gas flow destabilizes the sand, causing sand avalanches. In some places, hundreds of cubic yards (meters) of sand have been found to have avalanched. Surprising was that scars of past sand avalanches could be partially erased by wind in just 1 Martian year. Data from Mars landers have not shown strong enough winds to do that. Strong winds may be localized. 40% of the far northern dune areas studied were found to have changes during the study. Dunes at latitudes lower than the reach of the seasonal dry ice do not show new gullies, thus pointing at dry ice as the cause.

Marstinis - Most simulations of the formation of the Solar System have trouble explaining why Mars is so small. Much more material should have been available to form into the planet at that distance from the Sun. Many simulations have trouble explaining the Late Heavy Bombardment, a period considerably after planet formation when a great deal of crater-forming impacts occurred on the inner planets and our Moon. A new simulation seems to explain both of these. It shows a large number of tiny pre-planets (planetesimals) forming near where Earth and Venus were forming. One grows to the size of Mars, and is then slowly migrated out of this zone by perturbations of the disk of planetesimals. This migration out of the zone of planet-building materials before fully forming is what stunted Mars's growth. During that migration, Mars captured a large number of planetesimals into resonance orbits. That is, the planetesimals orbit twice (or some other small number) every time Mars orbits once, and this makes for a stable system that does not collide much. Even today, we find that Pluto and several other Kuiper Belt objects are in such a stable resonance with Neptune. The scientists who developed this theory are calling these planetesimals resonating with Mars Marstinis. Meanwhile the outer planets, including Saturn, formed more slowly than the inner planets. Eventually Saturn also underwent a migration, due to perturbations from the outer planets. There is a point near the end of Saturn's migration where it tends to kick Marstinis out of stability. The new simulation shows that the Marstinis running wild caused the Late Heavy Bombardment. Some of the Marstinis, however, simply moved outward and added themselves to what is now the main asteroid belt. This theory fits well with the timing and the impactor composition and mass of the Late Heavy Bombardment.

Nakhlites, a class of unusual meteorites, are known to have been thrown off the surface of Mars by an asteroid impact long ago, and eventually fell to Earth. An interesting aspect of nakhlites is that they have veins of water-generated minerals (clay, carbonate, etc.) in them. A new electron microscope study of 5 nakhlites (most of the known instances) showed that the impact that threw them off Mars probably melted a buried ice deposit in order to provide the water that formed the minerals. This solves a problem that the minerals have been dated to a time later than when liquid water is believed to have flowed on Mars.

Amino acids, a type of building block of life, can be formed in left-handed or right-handed versions. All life on Earth uses the left-handed ones. It is a mystery why life formed left-handed on Earth. One theory is that some chemical process created more left-handed amino acids or destroyed more right-handed ones around the time life began. In 2009, researchers found an excess of left-handed isovaline (one amino acid) compared to right-handed in samples of meteorites. Since meteorites are being considered as a possible source of the amino acids on the early Earth, this might explain the mystery. A new study has found excess left-handed isovaline in a wider variety of meteorite types. The new study also found that the amount of excess seems to correlate with the amount of alteration by water of minerals in the meteorites. Further, the most water-altered meteorites had the least amino acids. This implies that some process involving water is destroying the amino acids, but destroying the right-handed ones faster. The specific process is not known.

Titan (Saturnian moon) has been found to have thin wispy clouds of water ice, similar to Earth's cirrus clouds. Titanian clouds of methane, ethane and other hydrocarbons have long been known, but the ice clouds are a new discovery. The ice clouds are much thinner and higher than the methane ones. Observations were made with an infrared spectrometer on the Cassini spacecraft.


NASA/JPL/SSI, mosaic:Emily Lakdawalla

Enceladus (Saturnian moon) – For years researchers have been debating whether Enceladus is home to a vast underground ocean, or if just pockets of water feed the geysers seen erupting there. New evidence shows that it not only has an ocean, but it is a carbonated ocean. Salt found in 2009 on the particles ejected by the geysers had already showed that it was probably a salty ocean. A new computer model of the geysers indicates that the best match to observations is if the ocean has dissolved gases, such as carbon dioxide, in order to propel the material up through cracks in miles of ice, then out the geysers. The

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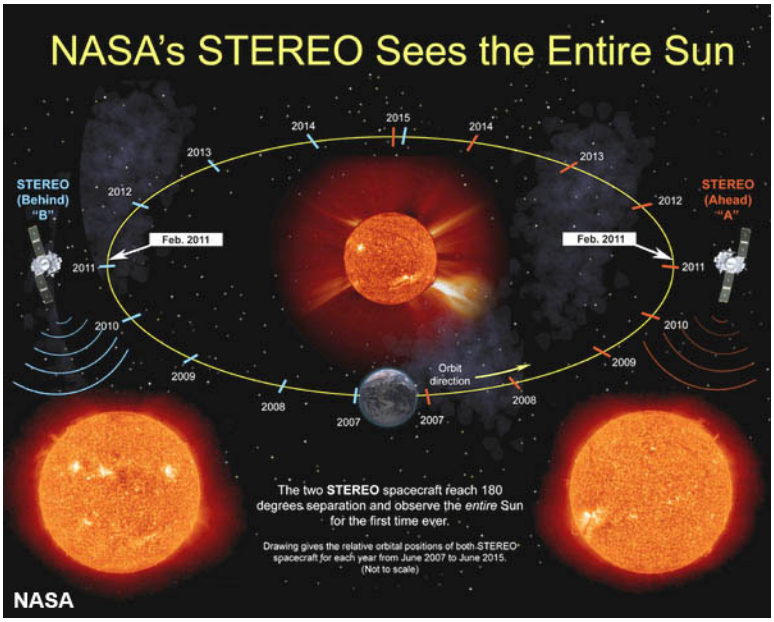
model showed that the fizzy water mostly spreads out sideways perhaps 300 ft (100 m) beneath the surface, but some of it collects in chambers, builds up pressure, and then blasts out through small holes. When the remaining water cools, it percolates back down to the ocean and starts the process over again.

Jupiter impact – Analysis of observations taken after the spot appeared in July 2009 in Jupiter's atmosphere showed that it was likely caused by the impact of an asteroid, not a comet, with a diameter of 700-1600 ft (200-500m). There were a number of differences found between this spot and those created by the pieces of Comet Shoemaker-Levy 9 that impacted in 1994. The new one contained hydrocarbons and silicates not seen before, lacked carbon monoxide (seen before), and spread its heat lower in the atmosphere. After that previous impact, astronomers thought that only comets were likely to impact Jupiter. The 2009 spot was discovered by amateur astronomer Anthony Wesley of Australia. The impact warmed the planet's lower stratosphere by as much as 3-4°. Though small, that temperature represents a huge amount of total energy because the warming occurred over a large volume. The object created a channel of super-heated atmosphere and debris, and then exploded deep below the clouds. This launched material back along the channel, above the cloud tops, to splash down into the atmosphere, creating the scar observed.

NanoSail-D – I reported here in January that NanoSail-D was sprung loose (literally) from the FASTSAT satellite on which it piggybacked during launch, and then was never heard from again. 42 days after the release, FASTSAT reported to Earth that it had just detected NanoSail-D departing. NanoSail's radio signal was soon received by radio amateurs. A timer was supposed to start at release and 3 days later unfurl the NanoSail's solar sail. Sure enough, 3 days after the delayed release, NanoSail reported by radio that it had unfurled. The project team is ecstatic, but would REALLY like to know what the sail was doing for 1.5 months. This is the 1st solar sail ever deployed in Earth orbit, and the 2nd anywhere in space. NanoSail is designed to burn up in the atmosphere in 70-120 days, depending on upper atmospheric conditions.

STEREO (twin solar space telescopes) were launched in 2006 into approximately the Earth's orbit around the Sun, but with one a bit faster than Earth (dubbed STEREO Ahead), and the other a bit slower (STEREO Behind). The idea was to get stereo images of solar eruptions to be able to track them in 3 dimensions. As the spacecraft drift farther from Earth, they have been seeing farther around toward the back side of the Sun, which is hidden from our earthly view. On February 6 the STEREO spacecraft reached the points where one or the other of them can see all points of the back side of the Sun. This is the first time in history that we have been able to see the entire Sun. The front side is being continuously imaged in greater detail than STEREO by SDO, a solar telescope in Earth orbit. This state will persist for 8 years until the STEREOs have essentially exchanged position, and will both be approaching the Earth. Seeing the whole Sun will significantly aid space weather forecasting.



WISE (infrared space telescope) has completed its 2nd full sky scan and a little bit more. The extra was to completely scan the asteroid belt, even accounting for orbital movement. The 2nd scan is being compared to the 1st to find anything that moved or changed brightness. WISE is being put in hibernation mode. 2 of the 4 infrared sensors are in working order, but there is no funding to continue its use.

Swift (orbiting X-ray telescope) – Seen in X-rays, the entire sky has a faint glow. Astronomers have long suspected that the chief contributors to this X-ray background were black holes at the centers of active galaxies (those galaxies with substantial material falling into their black hole). The problem is that in our local neighborhood, where such black holes are near enough to be seen individually, we couldn't find enough active black holes to account for all the X-ray background seen, assuming that all of space contains active galaxy black holes in the same density seen locally. A team of scientists used data from the Swift satellite to look for active black holes. Since Swift is sensitive to higher frequency X-rays than other satellites, the thought was that it would see more local active galaxy black holes, as higher frequency X-rays penetrate obscuring dust better. Indeed the Swift data showed a number of local active galaxy black holes that had been obscured to all previous observation attempts. It was expected that even Swift would miss some very heavily obscured black holes. When this was factored in, it was calculated that about 20-30% of galaxies are active. That agrees with the strength of the X-ray background. The X-rays observed by Swift also showed a distribution of frequencies that agreed with the distribution of the X-ray background.

Hubble Space Telescope (HST) has found what astronomers believe is the most distant object yet seen. Its light traveled 13.2 billion years to reach us, about 150 million years longer than the previous record. The object, called UDFj-39546284, is a compact galaxy of blue stars that existed just 480 million years after the Big Bang, only 4% of the Universe's current age. It is only about 1% the size of the Milky Way. Astronomers saw huge changes in the rate of star birth. It increased by about a factor of 10 in the next 170 million years after this. Astronomers don't know exactly when the first stars appeared in the Universe, but it may have been only a couple of hundred million years before this. It is expected that this is about as far back as HST is capable, and further look

backs in time will require the successor, the James Webb Telescope. The object was found in the Infrared version of the Hubble Deep Field image. Over a year of analysis showed its distance.

LOFAR (radiotelescope) – The first linkup of the LOFAR antennas, scattered all over Europe (Germany, Netherlands, UK & France), occurred in January. This effectively creates a radiotelescope antenna 600 miles (1000 km) wide. The "first light" image was of quasar 3C196. The great resolution of the new instrument showed the quasar as 2 bright spots, where previous visible light observations showed only 1. Linking the telescopes requires 10 gigabit network connections from the antennas to a supercomputer.

Instant AstroSpace Updates

On February 4 a small **asteroid** designated 2011 CQ1 came extremely **close** to Earth, about 7400 miles (11,900 km). It was estimated to be 6-10 ft (2-3 meters) across, and was discovered earlier the same day.

Combining image and spectral observations using **interferometry** between 8-meter telescopes in Chile has shown that a hot supergiant star (HD 62623) near the end of its life has a disk, which is generally found only on baby stars, because it has a dimmer unseen companion star creating the disk, as evidenced by a cleared region in the disk.

Chandra (orbiting X-ray observatory) has found that the ring about galaxy IC 298, formed by an expanding wave of star formation after collision with a neighboring galaxy, has a number of **black holes** around the ring. Presumably the stars that formed included many massive ones that soon (in astronomical terms) exploded as supernovas and left black holes behind.

The new instrument named **VIRUS-W**, a spectrograph that takes 267 simultaneous spectra, saw first light at the McDonald Observatory in Texas. First image determined the rotation speed of hundreds of points in the spiral galaxy NGC 2903.

Glory is scheduled to launch February 23, to study from orbit tiny atmospheric particles called aerosols and their effects on climate. Aerosol knowledge (or lack thereof) is one of the major uncertainties in climate prediction computer models.

The US Air Force has scheduled the 2nd launch of the **X-37B** unmanned mini-shuttle for March 4. The 1st flight was successful (though the Air Force isn't saying what it was successful in doing) and landed about 7 months after launch, having performed several orbit changes.

FEEDBACK FROM VOICE OF THE CUSTOMER SURVEY

Steve Condrey

I want to thank everyone who took the time to provide me with valuable feedback from the Voice of the Customer Survey I began in January. I want to make sure that the newsletter remains relevant to the membership, and that it doesn't become stale or uninteresting. I am always open for suggestions as to how to improve the Sirius Astronomer.

One suggestion submitted regarded the content of the newsletter itself. The newsletter is entirely the product of the submissions of members; as editor I try to refrain from submitting content myself and I only screen the articles for English usage and appropriateness for inclusion in an astronomy newsletter. I've only rejected two articles since taking on the position in 2003--one for blatant pseudoscience and politcal pandering (to say nothing of extremely poor writing skill!) and the other an attempt to bypass our advertising rules. Likewise, I've only been able to secure permission to reprint two articles in this time, both of them humor pieces. So really I'm dependent upon what OCA members and other members of the astronomy community (and related communities) send me. If there's something you'd like to see, send it in or show me a good public-domain source I can cite, and I'll make sure it gets in there.

The other comments I had are connected to this last issue. The newsletter has not always gone out on time, and this is something I personally will work harder to correct in the future. However, there are a number of factors influencing mail delivery of the newsletter. One is the Postal Service, and that is completely beyond the control of OCA. Members from outside Orange County (such as myself!) have noted that delivery to their addresses is significantly later than delivery within Orange County. There is unfortunately nothing we can do about this. Delays at the printer, and with the printer's delivery of the newsletter to Charlie Oostdyk (who does yeoman service amid his own pressures to get the newsletter out to the membership) further compound the issue. One factor which will speed up the process at least at the editing end is content--submit early, submit often! The more I have to work with, the faster I can put an issue together and the sooner it gets into your hands. Remember also that the newsletter is posted to the website in PDF format, usually within a day or two of it going to the printer.

Finally, to mitigate the effects of late delivery of the newsletter, I have taken one member's suggestion of posting important event dates two months in advance with each issue. I will also note that event dates are on the Calendar section of the website (this is in fact where I get them from for the newsletter!) so any information you see in the newsletter reflects what was current as of the time of submission to the printer.

Again, I want to emphasize that I am always looking for productive suggestions as to how to make this newsletter more valuable to you, the members. Please feel free to contact me at any time with your feedback!

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At the end of the day, we had both refractors mounted on the Kuhn, it seemed to be even better balanced than before, and was even quieter than before when slewing. As a bonus, the western LX200 now focuses smoothly, and we had a good time putting both scopes through their paces all evening.

When the work was done, we had a small celebration, and I was finally able to give Pat the plaque that the club made for him about a year ago – a small token of our great appreciation for all he's done for the club, particularly his help with the Kuhn and our other telescopes at Anza.

So, when you're out at Anza next, stop by to see the new configuration of the Kuhn. And, even though we installed the 5-inch primarily as a guide scope, it is also fun to look through – as is the 4-inch Vixen on the other side of the Kuhn.

Many thanks to Pat, Joe, Trey and Wayne for all they did to make this a reality!

Steve Condrey

We in the club have a lot to thank Steve Condrey for. Heading the list would be his several years as editor of the Sirius Astronomer, pulling content together month after month into an attractive newsletter, and getting it out to the publisher so it can ultimately get out to you each month. The Sirius Astronomer is one of the public faces of our club, and, particularly for those who don't spend time on the Internet, it is often the most tangible contact members have with the club. Steve's work as editor directly affects all of our members and also our public image.

Besides these monthly responsibilities for the Sirius Astronomer, Steve took on the responsibilities of Anza House Coordinator with his wife, Sandy, several years ago when we urgently needed someone in that position. That worked out quite well, even after Steve and Sandy became the proud parents of young Alex, and we really appreciate all that they have done to keep Anza House going.

Well, things do change with time, and Steve and Sandy now have a daughter as well as their son. It has been quite a saga which those of us who have known them a while have followed with interest. Suffice it to say, Steve recently told me that that their daughter's adoption should be final in April – an event truly to be celebrated! To cap off an eventful year for them, Steve received a promotion several months ago to a more challenging and time-intensive position. With all of these exciting developments on the home and professional fronts, Steve unfortunately no longer has the time or energy to continue as the Anza House Coordinator, and so he is, reluctantly but understandably, passing the baton.

Fortunately, he is able to continue on as the editor of the Sirius Astronomer, and I hope that we will continue to see him periodically as the monthly "What's Up" presenter at the general meetings.
We are very grateful for the hard work that he has put in at Anza House over the last few years, with Sandy's assistance, as well as all the other things he has done for the club, and we give hearty congratulations to Steve on his well-earned promotion and to Steve and Sandy for the new addition to their family. However, this means that we now have a

Need for a New Anza House Coordinator

For those who may not be familiar with it, Anza House is the double double-wide mobile home that is located on the club's Anza property. It's a major center of activity, providing three of the four bathrooms on the site plus a kitchen, sleeping facilities and a living room/dining room area for eating, working, socializing, watching TV, warming up on cold winter nights and cooling down on hot summer days.

The Anza House Coordinator is responsible for overseeing the house, making sure that it is kept clean, bringing in supplies as they are needed, reminding people to take their trash when they leave, identifying repairs that need to be made, etc. Depending on the abilities of the person holding that position, the Coordinator may do repairs him or herself, and make other modifications (we had one Coordinator, for example, who put linoleum in the bathrooms, which were originally carpeted). Although the Coordinator often does a significant amount of cleaning, we encourage them to recruit volunteers to help with cleaning and other maintenance, as everyone who uses Anza House should help maintain it.

Anza House is a major club asset, and the Anza House Coordinator plays a vital role in helping the Anza site function smoothly. If you are out at the Anza site regularly, or plan to be out there regularly in the future, please seriously consider volunteering for this position. If you are interested in it, please contact any of the Board members or officers. If you have any questions about what might be involved with this position, please feel free to contact Steve Condrey or me.

Messier Marathon

If you did the Messier Marathon, whether it was an Anza or not, please give or send me your Messier Marathon form so we can get you a certificate. Please be sure to include when you did the Marathon, where (if it wasn't Anza), information on the equipment you used, how many objects you saw, and your name. And, wherever or whenever you did it – I hope you had a good time!

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Society for Astronomical Sciences

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INVITATION AND CALL FOR PAPERS: 30TH ANNUAL "SYMPOSIUM ON TELESCOPE SCIENCE"

Invitation:

Amateur and professional astronomers, astronomy educators, and students are invited to attend the 2011 "Symposium on Telescope Science", on May 24-25-26, 2011 at Big Bear, CA. This Symposium will mark the 30th anniversary of the Society for Astronomical Sciences. The agenda will feature half-day Workshops, and two full days of technical papers. The keynote lecture will be given by Dr. Petrus Jenniskens on "The impact and recovery of asteroid 2008 TC3".

A Workshop on "Developing and Using Your Remote Observatory", presented by Tom Krajci and Tom Smith, has been confirmed. A Workshop on a second topic is also planned.

The Symposium is the premier opportunity for non-professional researchers to present their projects and results, receive advice from other backyard scientists and professional astronomers, and disseminate knowledge about methods, results, and opportunities for pro-am collaboration in small-telescope astronomical research. This annual gathering provides a unique venue for networking among the small-telescope research community, both amateur and professional.

For additional information, including Registration and Accommodations, refer to the SAS website (www.SocAstroSci.org). We look forward to seeing you there!

Call for Papers

Submissions of both Papers and Posters are now being accepted for the SAS 2011 Symposium on Telescope Science. Topics of interest include small-telescope science results, instrumentation and methods; pro-am collaboration; science education; and special uses of astronomical data. Examples of previous-years papers and presentations are available on the SAS website (www.SocAstroSci.org). Proceedings from previous years can be downloaded from the PUBLICATIONS tab. Videos of Paper presentations given at the 2010 Symposium are also available for download.

Abstracts of proposed papers should be sent to the Program Committee at program@SocAstroSci.org. Deadlines are:

Abstract submission: March 12, 2011

Final Papers due: April 16, 2011

Abstracts may be submitted in plain text format or MS Word. The formatting requirements for Final Papers -- including an MS Word template – are available on the SAS website.

About the SAS: The Society for Astronomical Sciences facilitates collaborative astronomical research between amateur, student, and professional astronomers. SAS workshops provide amateur and student astronomers with solid grounding in observational procedures and data-reduction methods. The annual "Symposium on Telescope Science" is the premier forum for presentation of the results of small-telescope research and professional-amateur astronomical collaborations. For more information, see: http://www.SocastroSci.org

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Press contact: LeRoy Snyder, e-mail: lsnyder@socastrosci.com

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The Leo Trio (M65, M66, and NGC 3628) is seen in this image by Don Lynn dated 5/7/2009. Don used a remotely-controlled AP 206mm refractor with an SBIG STL 11000 imager located in New Mexico.

2011 OCA Astroimage SIG Desktop Calendar - Now Available!

With Images by Ray Stann, Jeff Malmrose, John Castillo, Craig Bobchin, Bruce Waddington, Pat Stoker, Don Lynn, Pat Knoll, Sam Saeed, Jim Windlinger, Dave Kodama, Alan Smallbone, Wally Pacholka, Doug Acrea, and Bill Warden!

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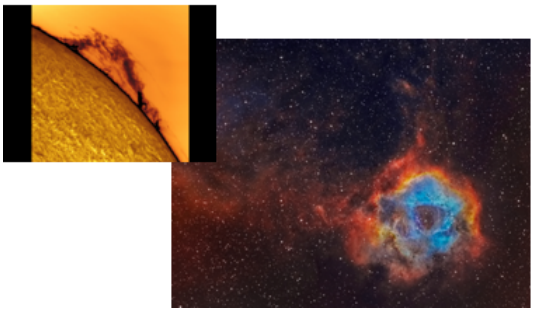

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See Charlie Oostdyk at the general meetings, or contact Barbara Toy or Alan Smallbone for information about ordering and picking up at other OCA meetings! Great Gift Idea!

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HANDY CONTACT LIST

CLUB OFFICERS			
President	Craig Bobchin	ETX_Astro_Boy@sbcglobal.net	714-721-3273
Vice-President	Reza AmirArjomand	reza@ocastronomers.net	949-212-3862
Treasurer	Charlie Oostdyk	charlie@cccd.edu	714-751-5381
Secretary	Bob Buchheim	rbuchheim@earthlink.net	949-459-7622
Trustee	Kyle Coker	kcoker@cox.net	949-643-9116
Trustee	Sheila Cassidy	rivme@pacbell.net	951-360-1199
Trustee	Greg Schedcik	gregsched@verizon.net	714-322-5202
Trustee	Gary Schones	gary378@pacbell.net	951-687-7905
Trustee	Steve Short	nightskytours@hotmail.com	714-771-2624
Trustee	Alan Smallbone	asmallbone@earthlink.net	818-237-6293
Trustee	Barbara Toy	btoy@cox.net	714-606-1825
COMMITTEES, SUBGROUPS, AND OTHER CLUB VOLUNTEERS			
Anza House Coordinator	VACANT		
Anza Site Maintenance	Don Lynn	donald.lynn@alumni.usc.edu	714-775-7238
Beginner's Astronomy Class	David Pearson	astrodwp@dslextreme.com	949-492-5342
Black Star Canyon Star Parties	Steve Short	nightskytours@hotmail.com	714-771-2624
Explore the Stars - OCA Contact	Bob Nanz	bob@nanzscience.com	760-751-3992
Librarian	Karen Schnabel	karen@schnabel.net	949-887-9517
Membership, Pad Coordinator	Charlie Oostdyk	charlie@cccd.edu	714-751-5381
Observatory Custodian/Trainer/ Member Liaison	Barbara Toy	btoy@cox.net	714-606-1825
OCA Outreach Coordinator	Jim Benet	jimbenet@pacbell.net	714-693-1639
Sirius Astronomer Editor	Steve Condrey	stevecondrey@ieee.org	951-678-0189
Telescope Loaner Program	Mike Myers	loanerscopes@twow.com	714-240-8458
WAA Representative	Tim Hogle	TimHogle@aol.com	626-357-7770
Webmaster	Reza AmirArjomand	reza@ocastronomers.net	949-212-3862
SPECIAL INTEREST GROUPS (SIG's)			
AstroImagers SIG	Alan Smallbone	asmallbone@earthlink.net	818-237-6293
Astrophysics SIG	Bob Sharshan	RSharshan@aol.com	714-845-6573
Dark Sky SIG	Barbara Toy	btoy@cox.net	714-606-1825
Remote Telescopes	Del Christiansen	DelmarChris@earthlink.net	714-895-2215
GoTo SIG	Mike Bertin	MCB1@aol.com	949-786-9450