

April 2005

Special points of interest:

- SAS Dark Sky Site Update
- Astronomy Day
- Evidence of Dark Energy in our Neighborhood

April Meeting:

"Astro-photography: CCD Imaging"

Learn to make your own astro-images! The April 20th meeting of the Seattle Astronomical Society will feature club member Keith Allred giving a presentation about CCD imaging. Keith is an experienced astro-photographer and will give us the basics of using CCD cameras for astronomy imaging, including much practical information and a selection of his fine images.

Also at the April meeting, we will give away a number of free passes to an advanced screening of "The Hitchhiker's Guide to the Galaxy", a new movie based on everyone's favorite Douglas Adams book.



Meeting Information

Wednesday, April 20
7:30 p.m.

Physics-Astronomy Building
Room A102
University of Washington
Seattle

*Come early at 7 p.m. for coffee
and snacks and to visit with
your fellow members!*



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Seattle Astronomical Society

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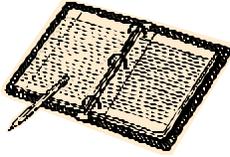
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From the President's Desk... Dark Sky Site

By Thomas Vaughan

Last month we published the dark sky proposal (at <http://www.seattleastro.org/dark-sky.html>) asking for feedback. Over the past month we've received many positive responses and suggestions for fundraising and running the site. It is clear that members are excited about the site, and have also put a lot of thought into how to run such a site successfully.

I'm happy to announce that we have begun fundraising for the dark sky site! We are now selling dark sky memberships and accepting donations, on the way to our \$25000 target.

How can you help?

Purchase a dark sky membership! These are \$250 each. Once a site has been acquired, there is an additional \$60 per year fee. Additionally, dark sky members must also be members of the SAS.

Make a donation! If you purchase a dark sky membership, any contribution beyond the \$250 membership fee is tax-deductible as a charitable contribution. Of course, if you don't purchase a membership, the entire contribution is tax-deductible.

Spread the word! Our goal is very attainable, but we'd like to hit the target sooner rather than later. Let your observing friends know that we are fundraising.

To contribute, send your check to the SAS and specify if you are purchasing a membership, or donating, or both.

The Seattle Astronomical Society

Dark Sky Site

PO Box 31746

Seattle, WA 98103-1746

What's next?

For the next several months, we'll fundraise (selling memberships and taking donations) to hit our \$25000 goal. Once there, we can set up a financing arrangement with a bank (similar to getting pre-approved for a mortgage). With financing in place, we will start hunting for the exact site.

What are the future plans for the dark sky site?

Right now, we're just trying to purchase land. Eventually, there are a number of site improvements that can be made:

- Concrete observing pads and piers.
- Electrical and Internet access.
- Secure structure to house Society telescopes and equipment.

And these are just a few ideas! Once a site has been acquired, the Dark Sky site members can decide what the next improvements should be.

**The SAS is partnering
with the UW Department
of Astronomy for
Astronomy Day on
Saturday, April 16th.**

Astronomy Day

Astronomy Day is Saturday, April 16th. We are partnering with the UW Department of Astronomy (and the Pacific Science Center) as they invite the public to several on-campus events. If you have some time, come on out to the UW and say hello! We'll be setting up some solar scopes, and have a table there (this is right by the Physics and Astronomy building where we have our monthly meetings). If you have a telescope with a solar filter, definitely drop by! In years past, member telescopes have been a big draw.

Society Finds its Secretary

A welcome and thank-you to Chris Karcher, a longtime member who has stepped up to take the job of Secretary. His meeting reports start in this issue of the newsletter, and he is taking an active role in the SAS Board as well.

Newsletter Editor Wanted

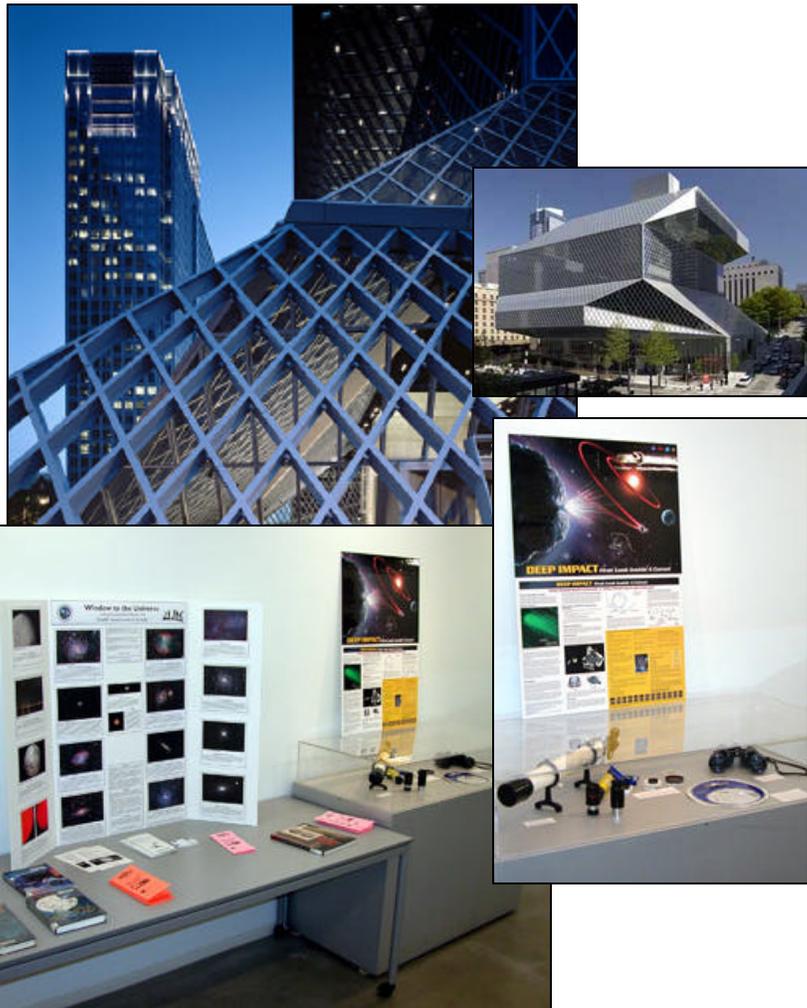
Rose and Saurabh, our excellent newsletter editors for the past year, are stepping down at the end of their term in June. Please help keep the newsletter going--volunteer to put the newsletter together! If you are interested, please contact me (president@seattleastro.org).

Seattle Public Library

Just a reminder--Janice Edwards has set up a display at the downtown branch of the Seattle Public Library. Do stop by and take a look! We will probably rotate this display (or similar displays) through other public libraries in the area, to promote astronomy and publicize the Society's activities.

Happy Observing-

-Thomas ☿



Society's display on the 7th floor of the new Seattle Public Library located in the heart of Seattle at 1000 Fourth Ave. Seattle Downtown. Thank you Janice Edwards for getting us into the Library.
Photo Credits: Burley Packwood

SAS March 2005 Club Meeting Minutes

Announcements:

- Janice Edwards will be setting up an outreach display at the Seattle main library. The display begins on Saturday 3/26.
- April 15th is Astronomy Day at the University of Washington
- Think-Up has provided a \$2500.00 donation for outreach activities.
- SAS is in need of volunteer CPA assistance for tax preparation.

Meeting Topic: Show and Tell

Randy Henzler provided a presentation on the Mt. Lemmon Science Center near Tucson AZ. His presentation included some history of the center from its beginnings as an Air Force Radar Base to its sale to the University of Arizona and conversion to an observatory complex and research center. Randy's introduction to the site began with a "life changing" experience at an astronomy camp. This introduction turned into a major project for Randy and a lifelong friend who attended the camp with him to turn the site into the "world's best astronomy camp" with a goal of about 200 "campers" a year. Current cost of astronomy camp at the site, run by University of Arizona, is around \$500.00 and well worth it according to Randy, even with some light pollution from Tucson. The site is fully self contained and hosts several sizeable telescopes. Randy and his partner plan on many upgrades to facilities and have installed or are installing an infrared telescope and a brand new 2.4 meter scope in a new dome. More info can be found at <http://www.astronomycamp.org>.

Thomas Vaughan gave a brief description of the SAS telescope library. Thomas provided an idea of just how much equipment is in the library's inventory when he described the 4 hour, multi-person task of relocating the equipment from the former librarian's house. The library contains a multitude of scopes in varying configurations and conditions. Included are some newer, easier to set up telescopes, some older scopes with trickier equatorial mounts and a few instruments in need of some TLC. There are also two new solar scopes including a Coronado PST. More info can be found on the SAS web site or members can contact equipment@seattleastro.org.

Tracy Furutani, an astronomy instructor at North Seattle Community College described NCC's near completed project of installing an observatory dome on the NCC campus which will house a permanently mounted, brand new Meade LX200. The goal is to have a telescope system which will be remotely operated with images being displayed on remote monitors within the classroom. The dome is in place and supporting wiring is nearly complete. Tracey is asking for volunteers to first help set up the telescope and then assist in getting all the necessary hardware and software working in harmony. Installation and alignment of the scope will take place around the last week of March with the setup of camera and software links being accomplished the first week of April. Tracy can be contacted at Tfurutani@sccd.ctc.edu

Bruce Kelley described the nicely done rebuilding of the mirror cell of his dobsonian. He described in good detail his list of goals for the rebuild his accomplishment.

Mark Zemanek showed and described the ingenious but simple Foucault tester.

Bob Suryan mentioned the possibility of displaying corporate logos as a way of gaining sponsorship for club projects. He also described the vintage clock in the UW observatory and the fact that volunteer assistance would be welcome to make the clock functional. Bob had some nice moon photos taken with his Canon Digital Rebel w/300mm lens.

Randy Johnson talked about a full thickness 24 inch mirror given to SAS by Bob's widow. A couple of different possibilities utilizing this mirror were discussed.

Maxine Nagle talked about a mysterious object moving through Orion. She discovered the object accidentally, taking some piggyback shots with a 50mm lens.

The spectacular bolide of 3/12 and its precise "Ooh!" measurement were discussed among club members.

Meeting was adjourned at around 8:45PM



April 2005

Sun	Mon	Tue	Wed	Thu	Fri	Sat
27	28	29	30	31	1	2 
3	4	5	6 UW Campus Observatory public view- ing night	7	8 	9 Tiger Moun- tain/Poo Poo Point Star Party (Members Only!)
10	11	12	13	14	15	16  Astronomy Day Green Lake / Paramount Park Star Party
17	18	19	20 SAS Meeting UW Campus Observatory public viewing night	21	22	23 Amateur Telescope Makers SIG Meeting
 24	25 SAS Board Meeting	26	27	28	29	30



May 2005

Sun	Mon	Tue	Wed	Thu	Fri	Sat
 1 Texas Star Party	2 Texas Star Party	3 Texas Star Party	4 Texas Star Party UW Campus Observatory public viewing night	5 Texas Star Party	6 Texas Star Party	7 Texas Star Party Tiger Mountain/Poo Poo Point Star Party (Members Only!)
 8 Texas Star Party	9	10	11	12	13	14 New Member Orientation Green Lake / Paramount Park Star Party
15 Astro-photography Imaging SIG Meeting	 16	17	18 SAS Meeting UW Campus Observatory public viewing night	19	20	21 Amateur Telescope Makers SIG Meeting
22	 23 SAS Board Meeting	24	25	26	27 Riverside Telescope Makers Conference	28 Riverside Telescope Makers Conference
29 Riverside Telescope Makers Conference	 30	31	1 UW Campus Observatory public viewing night	2	3	4 Tiger Mountain/Poo Poo Point Star Party (Members Only!)

Utterly Alien

[by Dr. Tony Phillips]



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

There's a planet in our solar system so cold that in winter its nitrogen atmosphere freezes and falls to the ground. The empty sky becomes perfectly clear, jet-black even at noontime. You can see thousands of stars. Not one twinkles.

The brightest star in the sky is the Sun, so distant and tiny you could eclipse it with the head of a pin. There's a moon, too, so big you couldn't blot it out with your entire hand. Together, moonlight and sunshine cast a twilight glow across the icy landscape revealing . . . what? twisted spires, craggy mountains, frozen volcanoes?

No one knows, because no one has ever been to Pluto.

"Pluto is an alien world," says Alan Stern of the Southwest Research Institute in Colorado. "It's the only planet never visited or photographed by NASA space probes."

That's about to change. A robot-ship called New Horizons is scheduled to blast off for Pluto in January 2006. It's a long journey: More than 6 billion kilometers (about 3.7 billion miles). New Horizons won't arrive until 2015.

"I hope we get there before the atmosphere collapses," says Stern, the mission's principal investigator. Winter is coming, and while it's warm enough now for Pluto's air to float, it won't be for long. Imagine seeing a planet's atmosphere collapse. New Horizons might!

"This is a flyby mission," notes Stern. "Slowing the spacecraft down to orbit Pluto would burn more fuel than we can carry." New Horizons will glide past the planet furiously snapping pictures. "Our best images will resolve features the size of a house," Stern says.

The cameras will also target Pluto's moon, Charon. Charon is more than half the size of Pluto, and the two circle one another only 19,200 kilometers (12,000 miles) apart. (For comparison, the Moon is 382,400 kilometers [239,000 miles] from Earth.) No wonder some astronomers call the pair a "double planet."

Researchers believe that Pluto and Charon were created billions of years ago by some terrific impact, which split a bigger planet into two smaller ones. This idea is supported by the fact that Pluto and Charon spin on their sides like sibling worlds knocked askew.



New Horizons spacecraft will get a gravity assist from Jupiter on its long journey to Pluto-Charon. Credit: Southwest Research Institute (Dan Durda)/Johns Hopkins University Applied Physics Laboratory (Ken Moscati).

Yet there are some curious differences: Pluto is bright; Charon is darker. Pluto is covered with frozen nitrogen; Charon by frozen water. Pluto has an atmosphere; Charon might not. "These are things we plan to investigate," says Stern.

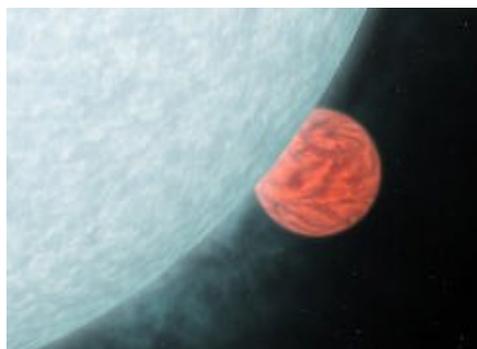
Two worlds. So alike, yet so different. So utterly alien. Stay tuned for New Horizons.

Find out more about the New Horizons mission at <http://pluto.jhuapl.edu/>. Kids can learn amazing facts about Pluto at <http://spaceplace.nasa.gov/en/kids/pluto>. ☒

Space Bits

First Light Captured from Extrasolar Planets

NASA's Spitzer Space Telescope has for the first time captured the light from two known planets orbiting stars other than our Sun. The findings mark the beginning of a new age of planetary science, in which "extra-solar" planets can be directly measured and compared. Astronomers first detected two planets using indirect methods, and then used Spitzer to perform follow-up observation with its infrared instruments. They detected the difference in star brightness when the planet was in front and behind the star, and were able to calculate how much of this light was supplied by the planet.



Credit: NASA/JPL

Link: http://www.rednova.com/news/space/137687/first_light_captured_from_extrasolar_planets/index.html ☒

New Milky Way Dwarf Satellite Galaxy Discovered

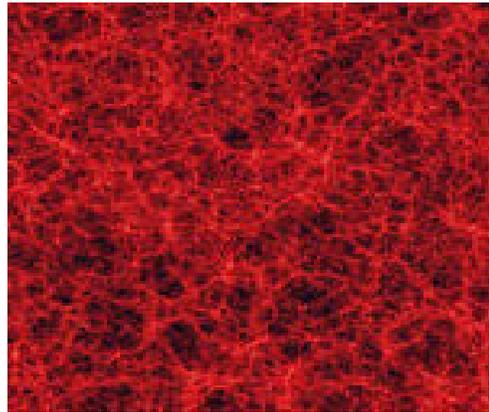
Some current models of galaxy formation predict that large spirals such as the Milky Way and Andromeda Galaxy should have more satellite galaxies than are currently known to astronomers. Many of these galaxies should be much smaller than those already discovered. Astronomers reviewing data from the automated Sloan Digital Sky Survey (SDSS) have now added a tenth satellite to the Milky Way's dwarf spheroidal galaxy contingent and this one is a real lightweight.



Link: http://www.universetoday.com/am/publish/dwarf_galaxy_uma.html?2832005 ☒

Researchers find evidence of dark energy in our galactic neighborhood

Astronomers have known since 1998 that a mysterious force seems to be accelerating the expansion of the Universe. An international team of astronomers have observations from Hubble and a powerful computer simulation to find evidence of dark energy much closer to home. The team studied the motion of our local group of galaxies (40 galaxies within 5 million light years) and found that you could only explain their current positions if you include the influence of dark energy.



James Wadsley, McMaster Univ., Hamilton, Ontario. A supercomputer-produced cross-section of part of the universe shows galaxies as brighter dots along filaments of matter, with a sea of dark energy filling in between the galactic islands.

Link: <http://www.physorg.com/news3404.html> ☒

Is the Kuiper Belt Slowing the Pioneer Spacecraft?

Launched from "Cape Kennedy" just 13 months of one another in 1972/73, Pioneer 10 and 11 are still up there though no longer kicking. But well before last phone home (in 2003 and 1995 respectively), the notes each pair played had changed pitch unexpectedly - they were slowly losing speed. Could the Pioneering Pair have been feeling a bit in the "dark" (as in "dark matter" or "dark energy")? Were they having a "Solar Quadrupole" moment? Could n-dimensional "branes" be behind it? Or has "back-gravity" from behind the Sun played a role? Before things get too exotic, maybe there's a simpler explanation.



Link: http://www.universetoday.com/am/publish/kuiper_belt_slowing_pioneer.html?3032005 ☒

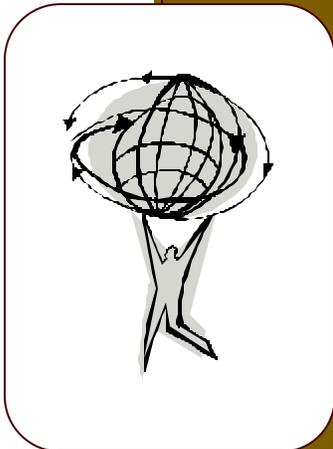
Some Stellar Facts

The International Space Station (ISS) will be the largest manned object ever to orbit the Earth. When completed, the pressurized living and working space will be just more than the volume of two Boeing 747's. It will then weigh an incredible 453 tons and will be as large as a football-field.

In the twentieth century, two objects have hit the Earth's surface with enough force to destroy a medium sized city. By pure luck both have landed in sparsely populated Siberia.

We promise you the sun, moon and stars and we deliver...

The Seattle Astronomical Society is an organization created and sustained by people who share a common interest in the observational, educational, and social aspects of amateur astronomy. Established in 1948, the SAS is a diverse collection of over 200 individuals. A variety of programs and activities is presented by the SAS throughout the year. Monthly meetings feature speakers on a wide range of topics, from the Hubble Space Telescope to electronic imaging to personal observing experiences. The club holds public observing "star parties" at Green Lake every month, dark sky observing parties outside Seattle, plus such activities as meteor watches, public telescope and astronomy displays, National Astronomy Day, and an annual Awards Banquet.



We're on the Web!
www.seattleastro.org

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