

skynews



on the cover

Supernova 2009dd in NGC 4088

by Joe Carr

April 15, 2009 9:36pm-11:30pm PDT, Victoria Centre Observatory, Observatory Hill, Victoria, BC

Bright supernova 2009dd is clearly visible in the centre of NGC 4088, the large galaxy in the frame. A smaller galaxy NGC 4085 is just visible on the right side of the frame.

Equipment: Meade 14" LX200 SCT operating at f/10, Paramount ME, Hutech-modified Canon XTi dSLR at prime focus.

Photos: 17 x 4 minute light frames taken at ISO 800; 10 dark frames; temperature 4.5°C

Processing:

- ImagesPlus 3.75 - auto dSLR image set processing: raw development/calibration, normalize, grade, align, average combine. Moderate digital development applied.
- NeatImage 5.1 Pro - auto noise reduction.
- ACDSee Pro 2 - reduce colour depth to 24 bit, convert to jpg, reduce file dimensions

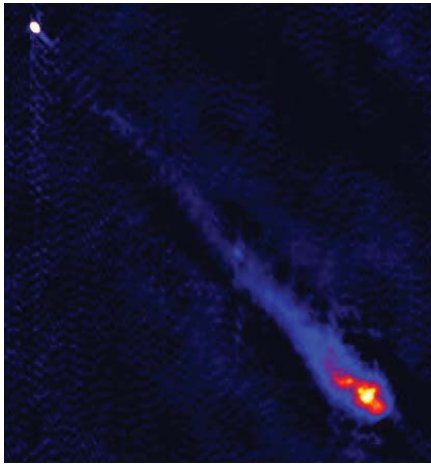
this month

Active Galactic Nuclei: A matter of perspective

Emily Down, Visiting Astronomer, NRC HIA

May 13th, 2009, 7:30 PM, Elliott Lecture Theatre, Rm 060, UVic

Active Galactic Nuclei are powerful, but rare, phenomena which occur in some galaxies. A small region at the heart of the galaxy releases a vast quantity of energy which outshines all the stars in the galaxy put together. I will talk about what an active galactic nucleus is, how it appears from the Earth, how we can measure which direction it



Quasar 3C273 observed with the MERLIN telescope.

points in, and how this information is used to study their formation and structure. I will briefly discuss how the birth of these strange and marvellous objects may be linked to the formation of normal galaxies.

Bio: I completed a Masters degree in Physics at Oxford University, UK, in 2002, and returned after a year as a library assistant to do a PhD in Astrophysics, which I finished in 2008. I currently hold a one-year Government of Canada postdoctoral research fellowship

at the Herzberg Institute of Astrophysics in Victoria. My research is in the field of galaxy evolution, focussing on investigating the structure, formation and evolution of quasars using Bayesian statistical modelling techniques.

contact us on-line

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observers group

RASC Victoria Centre and the NRC have signed a License to Use Land Agreement which gives members of Victoria Centre expanded access to NRC property on Observatory Hill.

If you are a member in good standing of Victoria Centre RASC, consider yourself an "active observer", and wish to take advantage of this opportunity, please send an email to the 1st or 2nd Vice President. More information on this program see: <http://victoria.rasc.ca>

Upcoming events

Thru to June 4 - Cosmic Voyage - now playing at IMAX - Stunning computer animation with cutting-edge science gives us a sweeping view of the universe. Every Tuesday evening in April: speakers at 6pm & 7:45pm, and IMAX IYA Sidewalk Astronomy at 9:30pm.

April 28 - May 2 - **RBCM - 100 Hours Side Walk Astronomy Marathon**

May 2, 10 am - 4 pm exhibits and activities, 7 - 11pm night sky viewing - **Centre of the Universe - Astronomy Day**

May 13 - 7:30pm - Elliott Lecture Theatre, Rm 060, UVic. **RASC monthly meeting lecture - Active Galactic Nucleii** - Ms Emily Down, Visiting Astronomer, NRC HIA

May 30, 10am to 4pm, **Beeveree, Camp Barnard**, display and observing

June (dates to be determined) - **A Short History of Night** a performance by Theatre Inconnu - theatrically charts the beginnings of modern science through the dramatization of two of the Renaissance's most colourful figures: Danish astronomer Tycho Brahe and geometrician/mystic Johannes Kepler. <http://www.theatreinconnu.com/>

June 1, 11:00am to 11:00pm, **Fairfield Community Centre**, Displays and observing

June 6 & 7, **Oak Bay Tea Party**, Displays and observing

June 11, to September 10, 8:30pm to 10:30pm, **Butchart Gardens**

June 21, 11am-2 pm - Beaver Beach, Elk/Beaver Lake Regional Park. **Celebrating Solstice**, Meet at the Nature Centre at Beaver Beach.

July 1, 10:00am to 4:00pm, **Memorial Park, Sidney Day**, displays and observing

July 11 & 12, **Archie Browning Sports Centre, Buccaneer Days**, Displays and observing

July 25, time to be determined, **Luminara at Beacon Hill Park**

September 5 to 7, time to be determined, **Saanich Fair**, Stelly's X-Road, Saanichton

September 13, time to be determined, **Metchosin Day**, displays and observing

October 17 - Early Music Society of The Islands, Alex Goolden Hall, Victoria, B.C. - **GALILEO'S DAUGHTERS Perpetual Motion: Revolutions in 17th-Century Science & Music with Dava Sobel** – Author Dava Sobel eloquently narrates the story of coinciding revolutions in science and music in the 17th century, as breathtaking images of Earth and the heavens compliment the virtuoso singing and playing of soprano Sarah Pillow, her Baroque ensemble Galileo's Daughters, and lutenist Ronn McFarlane.

November 14, Gorge Vale Golf Club. **RASC Victoria Centre AGM** and Dinner. Speaker: Dr. Christian Marois (of extra-solar planets fame) from the HIA.



Joyce Mackie Leads IYA tour
Ross Bay Cemetery,
Victoria, 22 March, 2009
Photos by Chris Gainor



Gravestone statue crowned by star

Mars Rover Recovers from Amnesia

By SPACE.com staff

NASA's Mars Rover Spirit is back on track. The robotic rover drove on Thursday for the first time since April 8 after its recent bout of amnesia.

Spirit was acting on commands from engineers who are still investigating the cause behind Spirit's recent glitches.

The drive took Spirit about 5.6 feet (1.7 meters) toward destinations about 500 feet (150 meters) away. The rover has already operated more than 20 times longer than its original prime mission on Mars. Spirit and its twin Opportunity landed on Mars more than five years ago.

This week, rover engineers at NASA's JPS in Pasadena, CA, judged that it would be safe to send Spirit commands for Thursday's drive. They also anticipated that, if the rover did have another amnesia event, the day's outcome could be helpful in diagnosing those events.

Three times in the past two weeks, Spirit has failed to record data from a day's activity period into non-volatile flash memory. That is a type of computer memory where information is preserved even when power is off, such as when the rover naps to conserve power.



“We expect we will see more of the amnesia events, and we want to learn more about them when we do,” said JPL’s Sharon Laubach, chief of the rover sequencing team, which develops and checks each day’s set of commands.

The team is also investigating two other types of problems Spirit has experienced recently: failing to wake up for three consecutive communication sessions about two weeks ago and rebooting its computer on April 11, 12 and 18. Engineers have not found any causal links among these three types of events.

After checking last week whether moving the rover’s high-gain antenna could trigger problems, routine communication via that dish antenna resumed Monday.

Spirit has maintained stable power and thermal conditions throughout the problem events this month, although power output by its solar panels has been significantly reduced since mid-2007 by dust covering the panels.

“We decided not to wait until finishing the investigations before trying to drive again,” Laubach said. “Given Spirit’s limited power and the desire to make progress toward destinations to the south, there would be risks associated with not driving.”

The team has made a change in Spirit’s daily routine in order to aid the diagnostic work if the rover experiences another failure to record data into flash memory.

To conserve energy, Spirit’s daily schedule since 2004 has typically included a nap between the rover’s main activities for the day and the day’s main downlink transmission of data to Earth. Data stored only in the rover’s random-access memory (RAM), instead of in flash memory, is lost during the nap, so when Spirit has a flash amnesia event on that schedule, the team gets no data from the activity period. The new schedule puts the nap before the activity period. This way, even if there is a flash amnesia event, data from the activity period would likely be available from RAM during the downlink.

One the other side of Mars, Opportunity completed drives of 315 feet (96 meters) Tuesday, 449 feet (137 meters) Wednesday and 312 feet (95 meters) Thursday in its long-term trek toward a crater more than 20 times larger than the biggest it has visited so far

May2009

I am just catching my breath after participating in the TC 10K as part of the IYA team and reflecting on all the wonderful activities that we have had in April. Canada Post’s launch of the beautiful astronomy stamps was on April 2 and Dr. Pierre Coulomb, President of the National Research Council of Canada visited the DAO on the 8th. I was proud to be able to show him our observatory and he seemed to be pleased and impressed with the “Shed” and the instrumentation.

Scott Mair organized the Solstice event at Gonzales hill on behalf of CRD again this year and the sun cooperated to make it a fine occasion for the many visitors that showed up. Earth day celebrations at Centennial square were also a success with the sun keeping us waiting just long enough to build the suspense before coming out in very clear skies.

For me April has been a special month. I have had the pleasure of teaching University 201 – Astronomy at UVic to a class of very engaged adults. The 101-201 series provides university level education to adults who have never had the opportunity. I have rarely been so challenged and excited in my teaching experience. The level of the questions they ask and their enthusiasm just blows me away. At the end of the class on April 14, the sky was clear and Saturn turned out to be a special treat since most of the class had never before had an opportunity to look through a telescope. For giving Galileo moments that are truly meaningful, this has been my personal best.

I was not able to attend the Tuesday evening IMAX and lecture series events as my class met on those days but from all reports they were excellent. Thanks to all the RASC volunteers who helped to make these and all the IYA events so memorable. You are great.

John

address change? information incorrect

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*this month
monday nights*

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Astronomy Cafe

Fairfield Community Centre,
1330 Fairfield, Victoria
Mondays 7:30-11pm

Call Geoff at (250) 592-2264
for directions and information.
Newcomers are especially
welcome. Come and enjoy!

**ASTRONOMY
CAFÉ**



second wednesday of the month

Monthly Meeting

7:30 PM, Elliott Lecture Theatre,
Rm 060, UVic.

as sky and interest dictate

New Observers Group

Hosted by Sid Sidhu.
1642 Davies Road, Highlands.
Call (250) 391-0540 for
information and directions.

by email

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Saturn and Four Moons by David Lee

Inspired by the seeing at Brentwood Elementary (School Observing Program) I set up when I got home. The views of Saturn were amazing especially with the moon Titan so close to the planet. I knew imaging wasn't going to be easy given I was using the refractor with the 5x Powermate. The high magnifications required to get a decent image size makes for a dim object for video. When I stretched the image I could also make out some other moons. To make them obvious I used the

Solarize filter in Photoshop. There is a moon missing, Mimas but I could see it was just on the boundary of perception. Mag 13 for the refractor was the limit given the fast exposure of the video frames.

Telescope: Televue NP101is with 5x Powermate
 Sensor: Imaging Source DMK31AF03.AS
 Exposure: 250 frames 157 ms Gain 7.53 Gamma 1.60
 Capture Program: Lucam Recorder
 Integration: Registax 5 using 250 video frames
 Final Processing: Adobe Photoshop CS2



Saturn and Four Moons

April 21 2009

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Time 00:34 PDT to 00:36 PDT

Integration of 250 Video Frames