



The PRETORIA CENTRE

of the

Astronomical Society of Southern Africa

www.pretoria-astronomy.co.za

NEWSLETTER JANUARY 2007

The next meeting of the Pretoria Centre will take place at Christian Brothers College, Pretoria Road, Silverton, Pretoria

Date and time Wednesday 24 January at 19h15
Chairperson Pierre Lourens
Beginner's Corner "Crosses and Clusters in Carina and Vela" by Michael Poll
What's Up Andrie van der Linde

+++++++ **LEG BREAK - Library open** +++++++
MAIN TALK

Stellar Evolution

by

Johan Smit

The meeting will be followed by tea/coffee and biscuits as usual.
The next social/practical evening will be held on Friday 19 January at the Pretoria Centre Observatory, which is also situated at CBC. Arrive anytime from 18h30 onwards.

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Last monthly meeting on 22 November 2006 — Pierre Lourens

Hein Stoltsz was chairman.

In "Beginner's Corner" Fred Oosthuizen gave us a talk about telescope care. There were useful practical tips.

"What's Up" was presented by Johan Smit.

A talk by Andre du Preez on a theory on cosmic dynamics took us through the impact of acceleration -- ascribed to the theorized presence of surrounding universes within a "multi-oscillo" structure featuring successive time cycles.

"Life", also addressed, within a cosmic "life segment" is deemed plentiful, while it was suggested that ultimate age for an entire time cycle could achieve some 80 billion years.

Electromagnetic speed (termed "Elma") and matter and energy in motion were also considered. The latter elements -- and ultimately energy only -- were also seen as the "ultimate variables" in cosmic Creation.

(See "A word from Andre du Preez" elsewhere in this newsletter.)

Last observing evening on 17 November 2006 — Pierre Lourens

The evening was cloudy and no observing was done.

Occultation of Venus on January 20th 2007 - Michael Poll

The moon will pass in front of Venus on January 20th 2007. Disappearance is at approximately 20h 04 at the dark limb. The bad news is that the event will occur with the moon only about 2 degrees above the horizon, so a good flat view to the west is required. However, for those not fortunate enough for these conditions to be fulfilled, the moon can be seen very close to Venus earlier in the evening. Venus has moved out from the sun into the evening sky and can be picked out in twilight by 19h15, and possibly even earlier. It is almost directly above the sun, lying slightly to the north (right) of the sunset point. On the night in question, Venus and the moon should make a striking pair even if the occultation is not seen.

Venus will be very close to the Moon, just above the dark side. It should be a very beautiful sight, with "earthshine" on the Moon and possibly comet McNaught (see below) over to the left, at about the same height above the horizon

Comet McNaught

Comet McNaught (C/2006 P1) has brightened up unexpectedly, and should be visible in our evening skies for a few days from Monday 16 January. It's difficult to predict when the best date is to view it - during the week it moves higher up and fades - but it is worth looking out for. It will be low in the south-west, just after sunset. There is a simple chart at showing its movement at website www.planetarium.co.za

What's on at the Johannesburg Planetarium

- **Space Travel** (for children 5 - 8 years)
- **The Moon**
- **Sky Tonight**

For show times, go to website <http://hermes.wits.ac.za/www/PlacesOfInterest/Planetarium/>

- The next monthly "**Get to know your Sky**" evening is Saturday 27th January, 7pm. This monthly hands-on session is aimed at 9-12yr olds - bring a torch and pencil. Cost R20 pp.
- The next "**Introduction to Astronomy**" series of four presentations runs Wednesdays, starting February 21st - R150 pp.

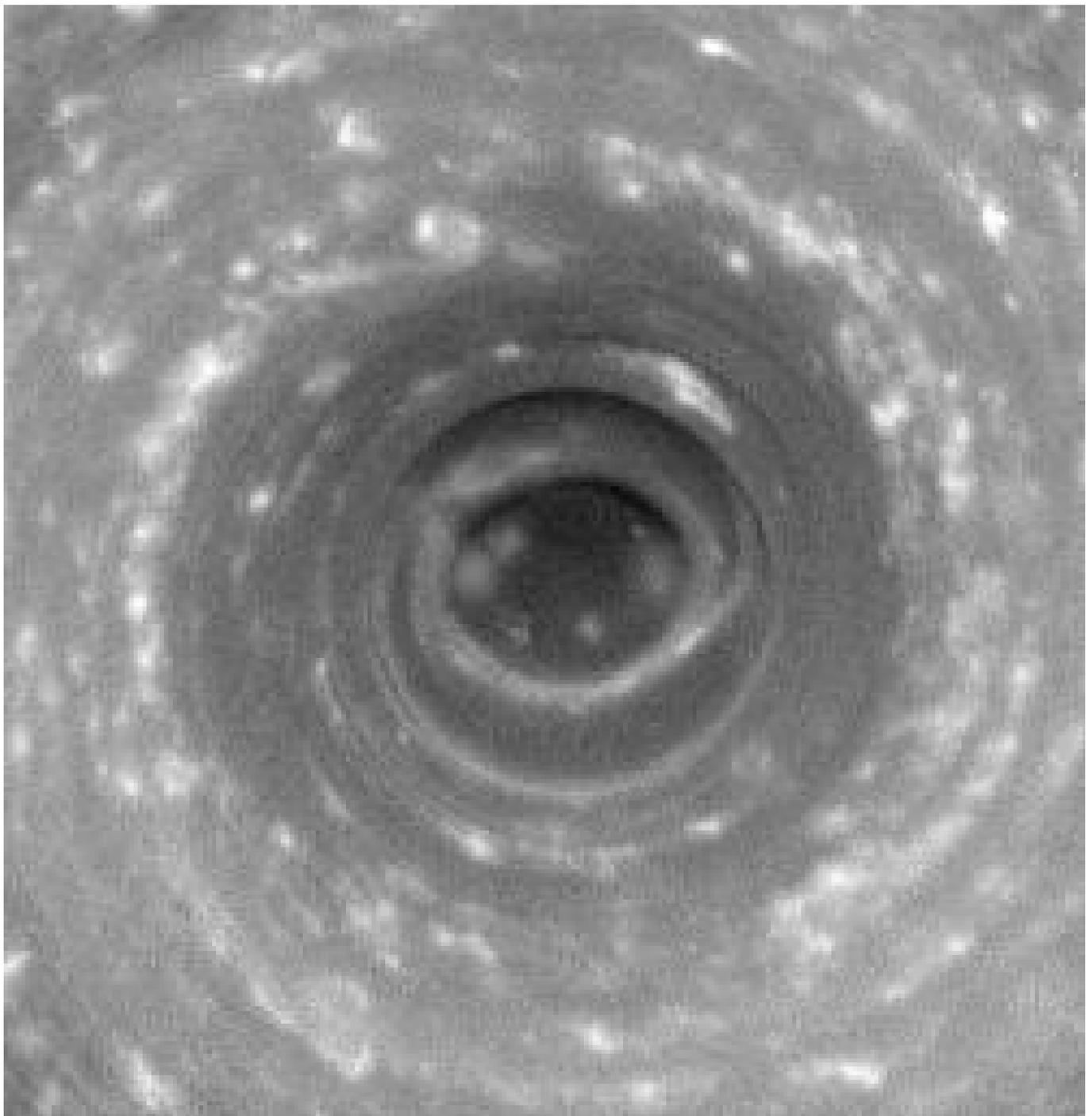
Details for the last two items at website www.planetarium.co.za

Monster storm at Saturn's south pole

Cassini stares deep into the swirling hurricane-like vortex at Saturn's south pole, where the vertical structure of the clouds is highlighted by shadows. Such a storm, with a well-developed eye ringed by towering clouds, is a phenomenon never before seen on another planet. The dark area inside the rings of bright clouds is about 8000 km across, or 2/3 the diameter of Earth. From a movie wind speeds of 550 km/h were determined. The ring clouds are 30 to 75 kilometers above those in the center of the storm.

To see a movie of the storm and to read more, go to website

<http://saturn.jpl.nasa.gov/news/press-release-details.cfm?newsID=703>



JACK BENNETT and the MOONWATCH PROGRAM**by Neville Young**

Jack Bennett was one of the founding members of the Pretoria Centre. He discovered a very famous comet, 1969i, named, of course, Comet Bennett and it forms the logo of our astronomy centre. In addition, Jack also discovered comet 1974h. Furthermore, he also picked up a 9th magnitude supernova in NGC

5236 (M83), becoming the first person ever to visually discover a supernova since the invention of the telescope.

Jack was also involved in the Moonwatch program during the late 1950's. The 'moon' referred to was not Earth's large neighbour, but was a term applied to any object orbiting the Earth, in this case man-made satellites. The Americans were frantically competing with the Russians to have a presence in space. In those days, there was not the global telecommunications network we take for granted today, and observations of the launches had to be done visually. Rockets are fired in the direction of the Earth's rotation - eastward - meaning that after crossing the Atlantic Ocean, the USA spacecraft passed over southern Africa. Accurate positional readings fed back to the Americans allowed them to determine the orbit of the satellite or even establish if it was going into orbit at all!

Observing groups were established in Cape Town and Pretoria and Jack was invited by the organiser, Roy Smith, to join the Pretoria observing team. A photographer was invited to one such observing session and took a photograph of the observers at their telescopes. I used this photograph in a presentation to the ASSA Conference in 2002 and it was then used on the ASSA website (http://www.sao.ac.za/assa/html/his_-_surveys_-_moonwatch.html) where it was found by Ron Doel, Associate Professor of History of Science at Oregon State University. He has written a book titled *The Historiography of Recent Science, Medicine and Technology* and wished to use the picture for the front cover. I managed to contact Roy Smith and arranged for the necessary permission to use the photograph for the book which has just been published (see cover image) (<http://writingrecentscience.com/>). I had to take the original photograph and have it scanned at high enough resolution for the glossy cover. Only the right hand side of the picture features on the front cover while the left hand side, which includes Jack Bennett on the far left, folds around to the back of the book (see full picture).

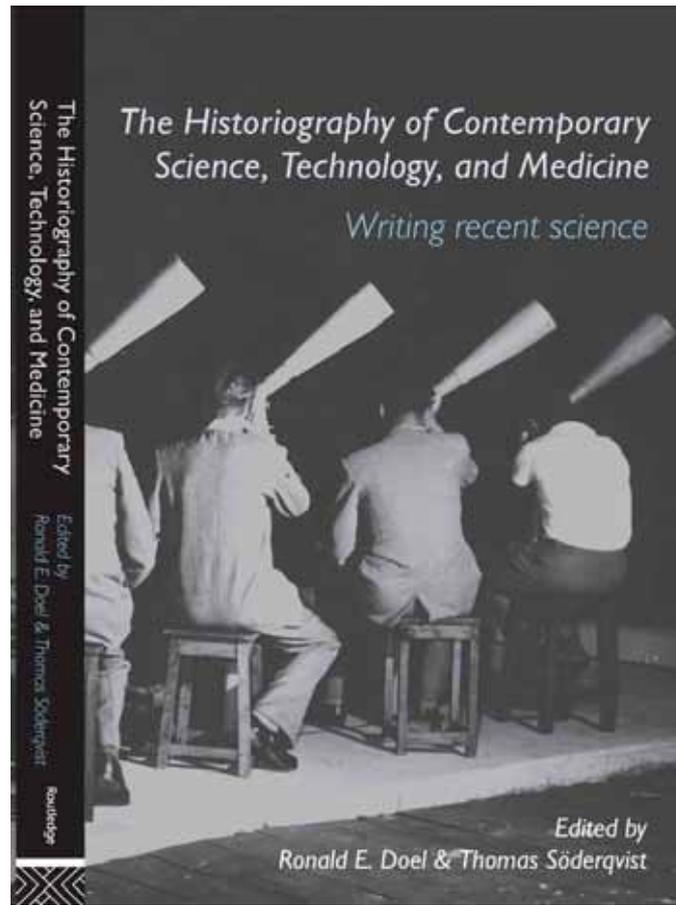
For our troubles Roy and I have each been promised a copy of the book which I very much look forward to reading.

In the last month, another request to use the photograph, this time inside a book, has come from Patrick McCray, Associate Professor & Co-director of the UCSB Center for Nanotechnology in Society at the University of California. Permission was readily given and I have also been promised a complimentary copy, but must wait until 2008 for publication.

Condolences

It is with sadness that we inform you that one of our members, Siegfried (Siegie) Liebner, passed away a few weeks ago.

We wish his wife and the rest of his family strength during this trying time.



Images sent back from the MRO*

The latest satellite to begin an orbiting career around the Red Planet, has already started sending back images of Mars. The MRO is equipped with various scientific and photographic equipment.

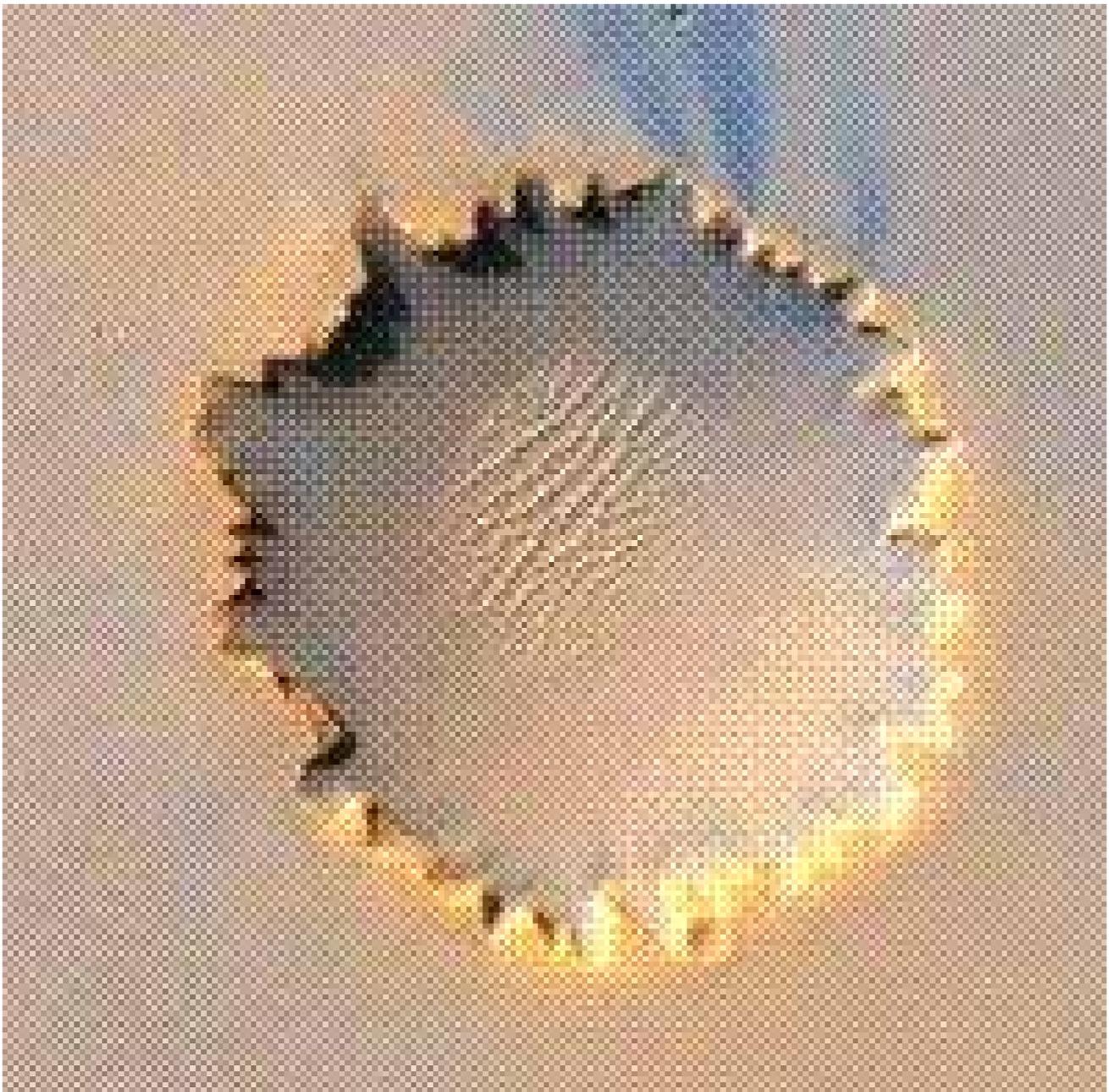
The image below was taken by the MRO's HiRISE telescope camera on 3 October 2006. It shows the Victoria impact crater at Meridiani Planum, near the equator of Mars. The crater is about 800 meters in diameter.

Go to web page <http://en.wikipedia.org/wiki/Image:PIA08813.jpg>. There you can download the high resolution image and zoom in & out and pan on it to see incredible detail.

Since January 2004, the Mars Exploration Rover *Opportunity* has been studying the area of Meridiani Planum. *Opportunity* (one of the two roving robot explorers on the surface of Mars) arrived at the rim of Victoria crater 5 days before this image was taken by the MRO.

MRO home page: <http://marsprogram.jpl.nasa.gov/mro/technology/>

*MRO = Mars Reconnaissance Orbiter



A word from Andre du Preez

"My thanks, again, Michael, to you and your Committee for the opportunity afforded me to share my "theory on cosmic dynamics" with all present on 22 November. I wish to stress that the contents of my book and of its summary, as presented in my talk, represent my own personal insights (and conviction). Should any occasion subsequently arise where such contents might be presented in public, the aforementioned fact, and that ASSA and its members cannot necessarily be seen as subscribing to those insights, will be stated, as deemed appropriate for the particular circumstances.

I wish the Pretoria Centre a prosperous and exciting 2007. "

Editor's note: On behalf of the committee: Thank you, Andre, for a thought-provoking talk.

His book, titled "A Cosmic Window", is for sale @ R75-00. Those of you who are interested in buying a copy, can contact him at:

E-mail: hanniedp@saol.com Phone: 012 345 1430

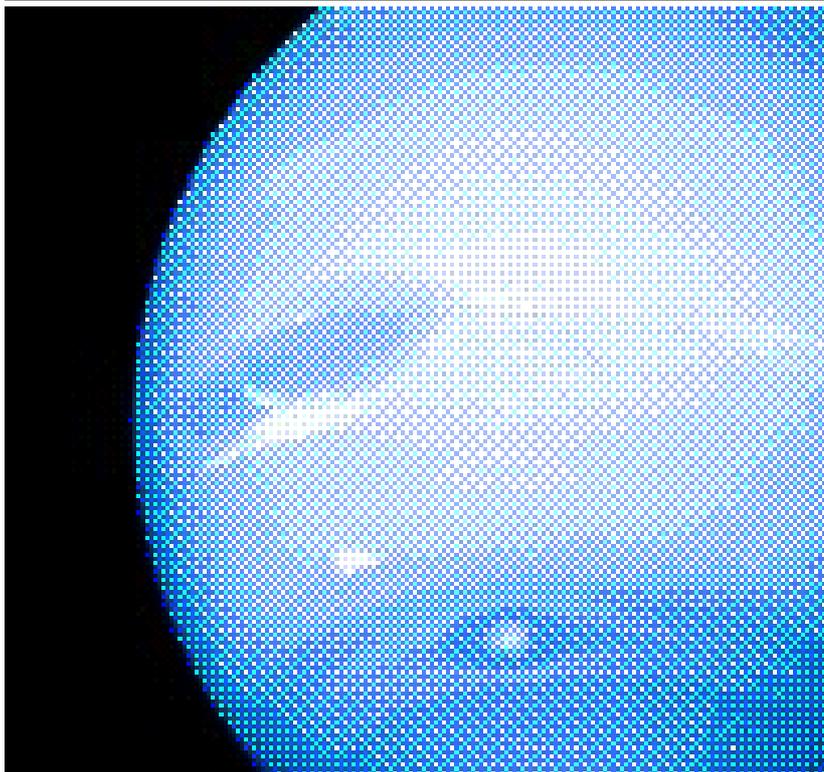
Tiny exoplanet orbits common red dwarf star

One of the smallest planets ever found in another solar system has been discovered by astronomers. It is orbiting the star Gl 581 in the Libra constellation, 20.5 light-years away from Earth. Gl 581 is a red dwarf, a small, cool, faint star that is the most common type in our galaxy. While the star has a mass of only one-third of the Sun, the exoplanet is roughly as large as Neptune, which is 17 times larger than Earth.

The new planet discovered at the Chile facility is one of the six smallest of 180* exoplanets detected by astronomers. It travels in an orbit 6 million kilometers away from the star, and takes 5.4 days to complete its orbit. By comparison, Mercury, the closest planet to the Sun in our own solar system, is 58 million kilometers from the Sun and takes 88 days for one revolution. That close to its host star, the exoplanet is probably extremely hot.

Website: http://www.abc.net.au/science/news/space/SpaceRepublish_1521428.htm

* Outdated number. On 11 Dec 2006 it was 209. See <http://exoplanet.eu/catalog.php>



Left: The planet Neptune of our own solar system, imaged from close up during a flyby of a NASA spacecraft.

Sky Guide Africa South 2007

Copies will be offered for sale at the meeting on 24 January.

Stardust

An artist's representation of the spacecraft **Stardust** near comet Wild2 on 2 January 2004. **Stardust** was NASA's comet sample return mission. Read more on website

<http://stardust.jpl.nasa.gov/home/index.html>



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