

December 2011

Events list, Dec – January

Tue 13/ Wed 14 Dec: Peak of the Geminid meteor shower
Sun 18 Dec: Speaker - **Rachael Livermore**, "The Universe's
Largest Telescopes – Gravitational lenses"
Fri 23/ Sat 24 Dec: Deep sky observing opportunity
Sat 24 Dec: New Moon

Wed 04 Jan 2012: Peak of the Quadrantid meteors -
Best observed after moon set on night of 03/04 Jan
Mon 09 Jan: Full Moon
Sun 15 Jan: Speaker – **Juergen Scholl**, "Tackling the
turbulence" - Adaptive optics
Thu 19 – Sat 21: Stargazing Live! – Jupiter Nights
Mon 23 Jan: New Moon
Tue 31 Jan: Brownies visit – Joint Event with WWT, 6:30pm

All Society events are free, are held in the Washington WWT facilities, and evening meetings start at 7:00pm unless otherwise noted. Please bring a torch and warm clothing to any night-time observing sessions. All observing sessions are dependent upon favourable weather and may be subject to cancellation.

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Editorial

At last my astro-collection is now complete: I have managed to find a copy of Gustav Holst's "Planets" suite, the essential musical companion to the solar system. Now I've found it I'll probably never listen to it, but I somehow feel more of an astronomer now I have this CD in my collection.

As well as now being a proper astronomer, I have sprinkled a few sprigs of festive holly around this issue to make it a proper Christmas issue. While most of these images have been recycled from the December 2009 issue for environmental reasons, I hope you'll agree Dec 2009 was a particularly good issue which deserves to be recycled.

Looking back, 2011 appears to have been a good year for the Society, with a large number of successful events for the public and visitors to the observatory. The regional star camps and deep sky observing at Derwent continue to be well attended, which is pleasing. The heart of the Society has always been its group of active observers, who drink their beer out of cans and change their own oil.

The year ends with some interesting new projects taking shape, including the Telescopes of Ethiopia project and two matters related to the late, great David Sinden. With these in the pipeline, I'm really looking forward to 2012 and, slightly further ahead, the Society's 20th birthday in 2013.

It is good to know that the BBC's Stargazing Live programmes last year were so popular that they're doing it again – and the SAS will be playing its part in January, with some "Jupiter nights" at the observatory (dates on the left).

With this being the last issue of the year, can I wish you all an enjoyable December, a great Christmas and a wonderful New Year.

All best wishes, Dave N.

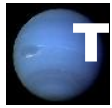
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THE DARKE SIDE

Society Update with Chairman Graham Darke

2011 has been one of the busiest years I can remember for the Society. The diverse range and number of different events we've been involved with has been excellent. Since the International Year of Astronomy in 2009, we've not really slowed down from that initial head of steam and 2012 is shaping up to be another memorable year. If you've helped out in any small way during the past year, then I'd like to thank you. We are nothing without the valuable support of our members.

I know it's early to be thinking about the summer of 2013, just yet, but it will mark a special moment in the history of our club. In June 2013, SAS will be 20 years old. I think we should celebrate this in style and I'd like all members to think how we might do so. My own wish would be for a very high profile speaker to visit a large local venue (perhaps the Empire Theatre) and deliver a public lecture. If anyone does have any ideas please do suggest them.

Annual General Meeting

I'm pleased to report again, that our AGM on Sunday 20th November was very well attended. I'm sure we would be the envy of many organisations. I'm delighted that the newly created post of Vice Chairman was taken by David Hughes and we also have a new Secretary, Paul Meade, who takes over from Lynn Henderson. I'd like to thank Lynn personally for her many years of dedication to the Society as Secretary. We also welcome John Lynch, Trevor Johnson, Martin Kennedy and Andrew McDowell to the committee.

Join In

This is a call to anyone who has joined the Society but not yet been along to a meeting. Membership is much more rewarding if you join in with our activities, whether it be coming along to lecture or workshop meetings, helping out at the observatory with group visits, observing with your fellow members at Derwent or joining one of our numerous events for the public. Join in and get more out of it.

Text Alert Service

The number for the Society text alert service has changed. If you're already registered, then you don't need to do anything. If you'd like to join the service, just text your name to **07986 339 520** to receive text alerts for Society observing events.

Thank you to Michael Tweedy who is now looking after this.

Brownies at the Observatory, 3rd Nov.

Thanks to John and Michael who assisted.

Girl Guide Leaders at Cygnus, 23 Nov.

Thanks again to all who helped out with this event. The weather was not great, but all who attended enjoyed it and will certainly be back with their groups.

Stargazing Live! 2012

The BBC are running a new series of the Stargazing Live programme in January. For three nights from 16th January, BBC Two will be screening the show with Brian Cox and Dara O'Briain.

We are going to open the Cygnus Observatory from 7.00pm until 9.00pm on Thursday 19th, Friday 20th and Saturday 21st January to coincide with the programme and hopefully attract some new members.

These events could be very well attended and any members who are able to spare a few hours on those evenings are asked bring their scopes down to the observatory. We're running the evenings under the name of "Jupiter Nights" as we'll feature the giant planet as the "star of the show". The BBC are interested in hosting a large regional event for up to 1000 people with a live video feed into one of the live programmes and we've been asked to help out with that too. More details to follow.

Stay up to date

Keep up to date with all society developments on the website **www.sunderlandastro.com**, and why not sign up for the news group?

And finally.....

Could I wish all members and their families a very Cheerful and Clear Winter Solstice, Merry Christmas and a Happy New Year.






Re-thinking an Alien World: The Strange Case of 55 Cancri e

Forty light years from Earth, a rocky world named "55 Cancri e" circles perilously close to a stellar inferno. Completing one orbit in only 18 hours, the alien planet is 26 times closer to its parent star than Mercury is to the Sun. If Earth were in the same position, the soil beneath our feet would heat up to about 3200 F. Researchers have long thought that 55 Cancri e must be a wasteland of parched rock.

Now they're thinking again. New observations by NASA's Spitzer Space Telescope suggest that 55 Cancri e may be wetter and weirder than anyone imagined.

Spitzer recently measured the extraordinarily small amount of light 55 Cancri e blocks when it crosses in front of its star. These transits occur every 18 hours, giving researchers repeated opportunities to gather the data they need to estimate the width, volume and density of the planet.

According to the new observations, 55 Cancri e has a mass 7.8 times and a radius just over twice that of Earth. Those properties place 55 Cancri e in the "super-Earth" class of exoplanets, a few dozen of which have been found. Only a handful of known super-Earths, however, cross the face of their stars as viewed from our vantage point in the cosmos, so 55 Cancri e is better understood than most.

When 55 Cancri e was discovered in 2004, initial estimates of its size and mass were consistent with a dense planet of solid rock. Spitzer data suggest otherwise: About a fifth of the planet's mass must be made of light elements and compounds—including water. Given the intense heat and high pressure these materials likely experience, researchers think the compounds likely exist in a "supercritical" fluid state.

A supercritical fluid is a high-pressure, high-temperature state of matter best described as a liquid-like gas, and a marvellous solvent. Water becomes supercritical in some steam turbines—and it tends to dissolve the tips of the turbine blades. Supercritical carbon dioxide is used to remove caffeine from coffee beans, and sometimes to dry-clean clothes. Liquid-fuelled rocket propellant is

also supercritical when it emerges from the tail of a spaceship.

On 55 Cancri e, this stuff may be literally oozing—or is it steaming? —out of the rocks.

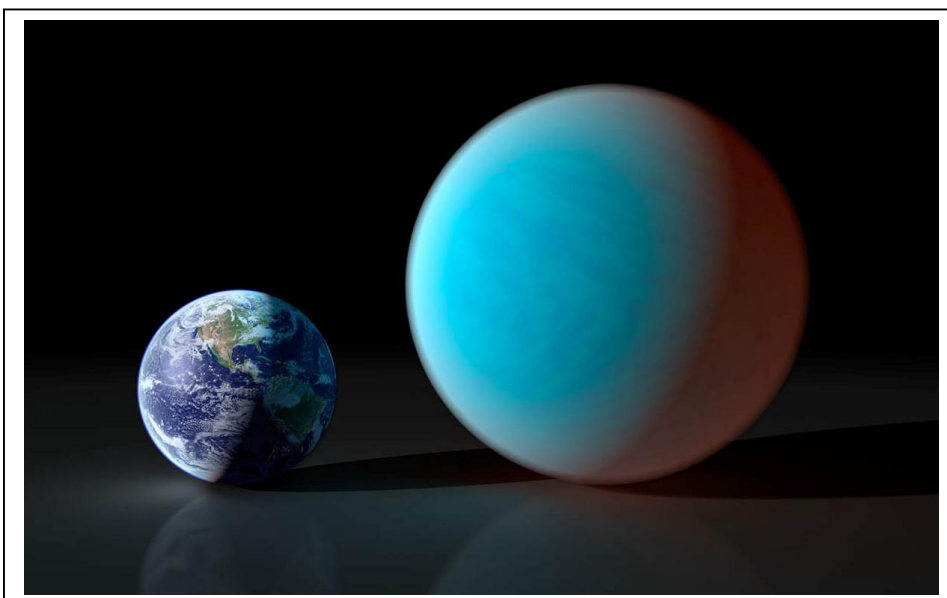
With supercritical solvents rising from the planet's surface, a star of terrifying proportions filling much of the daytime sky, and whole years rushing past in a matter of hours, 55 Cancri e teaches a valuable lesson: Just because a planet is similar in size to Earth does not mean the planet is like Earth.

It's something to re-think about.

Get a kid thinking about extrasolar planets by pointing him or her to "Lucy's Planet Hunt," a story in rhyme about a girl who wanted nothing more than to look for Earth-like planets when she grew up. Go to <http://spaceplace.nasa.gov/story-lucy>

The original research reported in this story has been accepted for publication in *Astronomy and Astrophysics*. The lead author is Brice-Olivier Demory, a post-doctoral associate in Professor Sara Seager's group at MIT.

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



Left: Artist's rendering compares the size Earth with the rocky "super-Earth" 55 Cancri e. Its year is only about 18 hours long!

SAS Yahoo Forum

The Society's Yahoo group provides a forum for members to exchange ideas, ask questions, and a place to post their pics:

<http://tech.groups.yahoo.com/group/SunderlandAstronomicalSociety/>

Secretary's Report

A summary of the Committee Meeting held on 13 November 2011.

Attendees: Kevin Baxter (KB), Graham Darke (GD), Lynn Henderson (LH), David Hughes (DH), Ken Kirvan (KK), Michael Tweedy (MT)

Apologies: Tom Crann (TC), Paul Meade (PM), Peter Stokel (PS)

Items discussed

Equipment

The society has been donated a home made 8" F6 Newtonian with a Telrad, and 2" focuser.

The society has also been offered an unused, still boxed Meade LX200 14" by one of our previous members Trevor Spottiswood. The telescope is currently in Spain and it is Trevor's wish that it be used for public outreach events, with the recipient being asked solely to contribute to the shipping costs.

The committee agreed that although a lovely gesture the society itself could not make good use of this and that there may be other places which would enjoy the benefit. GD suggested a local group in the Edmundbyers, Hunstonworth, Blanchland area organized by Graham Rose may be interested. This group have been trying to establish a community observatory for some time.

Another option to consider is a project the society are currently getting involved in in Ethiopia. (see item below).

GD to discuss the potential options with Trevor Spottiswood

Ethiopia Project

DH has been approached by Dave Kidd, a school teacher in Ethiopia about the society getting involved in a project to bring astronomy and telescopes to schools in Ethiopia.

The plan is for individual schools to receive binocular lenses from the UK in order to make their own small telescopes. Additionally an observatory would be established at a local University which would be available to the school children to use.

In order to establish a telescope at the observatory it was suggested that the 18" Mirror Blank currently being worked on by GD be donated to the project. This mirror would be completed by GD and John Nichol and a grant applied for to pay for the silvering. The blank is currently an F7 but GD will discuss with Dave Kidd what it should be. The society could then get involved with the whole project.

A second option is that the LX200 could be shipped out to the University.

GD to discuss with Dave Kidd what focal length the mirror should be.

Visits and Events

Visits Made

12/10/11 Houghton Feast – talk and observing 7pm start at Houghton Sports Hall

19/10/11 St Nicholas Brownies – Joint Event with WWT 6:30pm start

22/10/11 Kielder Night Watch at Kielder Castle – 8pm start

03/11/11 Clare Bamburgh's Brownies – Joint Event with WWT 6:30pm start

09/11/11 Carl Sagan's Birthday – Scale of the Solar System, Northumberland Street 5:30 start -

Postponed

Visits and Events to come

23/11/11 Brownie Leaders visit to WWT – 6:30pm start

02/12/11 WWT Staff Event – Early Christmas Stargazing - time TBA

31/01/12 Brownies – Joint Event with WWT 6:30pm start

Volunteers from members asked for all events. Bring your telescope along.

Richard Darn has approached the society to ask if we would like to be part of the Kielder Castle Nightwatch event on 6th October 2012. The members of the committee agreed the society would do this.

GD to confirm SAS attendance at the Kielder Castle Nightwatch Event on 6th Oct 2012

GD has been approached by Hazelrigg school to do an event at the school on one teatime. It was suggested that this maybe done in January. **GD** will get further information.

2012 Society Calendars Due to a lack of members photographs **MT** will not be producing society calendars for 2012. (Continued over)

Secretary's Report (continued)

MT& All To encourage more members to contribute images after the Astrophotography competition in April 2012

Observatory Maintenance

There were further discussions about the best coating to apply to the inside of the observatory. Derek Brown has suggested a product called G4 which is used to line the inside of fish tanks. GD to investigate further but it looks that this work will now be put off until the Spring.

Stargazing Live 2012

The BBC are one again holding a Stargazing Live event in January 2012 running from 16th – 18th , the society has registered for 3 events running from 19th – 21st to coincide with this.

Additionally the BBC are hoping to do a live event, jointly with all the local NE societies to coincide with the actual Stargazing Live events of 16th – 18th. They are currently asking the societies for idea but it is suggested that they would be hoping to host a large event of circa 1000 people.

SAS confirmed they would like to be involved and are now waiting for further information.

Inside Out Television Programme

A researcher from Inside Out who is involved in a programme on the Aurora, has approached the society to see if we would be interested in being involved.

SAS confirmed they would and are now waiting for further information.

DH has been met with very positive feedback re the instigation of the David Sinden medal. Next steps is now to decide how to take this forward.

Close House - 24" Telescope Project

DH and **Dave Newton** are still trying to determine who owns the domes and telescopes at Close House.

Society Telephone

MT currently has a phone with unlimited texts. Therefore the intention is to use this for society texts. **GD** to forward the society telephone distribution list to **MT**. **MT** to email **LH** with the new number for inclusion in the members welcome letter.

→ Next committee meeting: 11 December, 6pm

Annual General Meeting 2011

A summary of the AGM held on 20 November 2011.

Attendees: Kevin Baxter (KB), Graham Darke (GD), Lynn Henderson (LH), David Hughes (DH), Ken Kirvan (KK), Paul Meade (PM), Michael Tweedy (MT) plus 15 ordinary members

Apologies: Peter Stokel (PS)

Items discussed

Financial review: **KB** presented the summary of the Society's finances over the last twelve months. **Dave Beedham** was appointed as auditor for the accounts 2012.

Significant Purchases: Astrotrac Travel System; Eyepieces - Televue 14mm Radian, Televue 19mm Panoptic

Secretary's Report – LH Total membership for the year 1st September 2010 to 31st August 2011 – 44 (with 2 of these paying at the end of the previous season)

Review of the year's activities – GD / LH A summary of the activities carried out by the society over the previous year was given. The membership were asked if they were happy with the events we'd carried out and with the number of events we'd had. The membership agreed that they were.

Membership Subscriptions: The membership were asked for feedback on the cost of membership fees. The membership were happy with the current levels and it was agreed to leave the fees at their current value.

(Continued over)

Structure and On-going Election of Named Officers

GD explained that it was good practice to rotate the named officers of the committee i.e. Chairman, Treasurer and Secretary in order to keep a fresh outlook. Additionally as it was felt that in order to transition the role of Chairman it would be preferable to have the Chairman's role shadowed for 1 year before being handed over by a Vice-Chairman.

However it was stressed that anyone can apply for any role within the committee at any time and a candidate does not need to be vice-chairman before standing for the Chairman's role.

One member expressed the view that if an officer was doing a good job and was happy to continue with the role they shouldn't be forced to leave.

A member asked what the Charities Commission's view of the rotation of committee members was. GD replied that they had no fixed rules, only guidelines.

It was asked what the rules for re-election as an officer were and if there were any time limits. GD replied that an ex-officer could re-stand after a period of 1 year.

Two proposals were put to the membership:

1. Named officers should only be allowed to hold their posts for a maximum of 3 years after which time they must stand down. Initially to ensure continuity the current named officers would only change one per year.

Those for: 18

Those against: 1

Abstentions: 3

2. A new post of Vice-Chairman be created to be held for 1 year with the intention that the Vice-Chairman stand for the role of Chairman the following year.

Those for: - Unanimous

The existing committee was dissolved.

- **GD** – re-elected as chairman
 - **DH** – elected as vice-chairman
 - **PM** – elected as secretary
 - **KB** – re-elected as treasurer
 - **MT** – re-elected to the committee
 - **PS** – re-elected to the committee
 - **KK** – re-elected to the committee
 - **Trevor Johnson (TJ)** – elected to the committee
 - **John Lynch (JL)** – elected to the committee
 - **Andy McDowell (AM)** – elected to the committee
 - **LH** – resigned from the committee
-
- **DH** – Explained to the membership that he is currently involved in instigating the "David Sinden Medal" as an award to a member of local societies who have made a worthwhile contribution to Astronomy in the North-East.
 - **DH** – Described to the membership a project that the Society is becoming involved in to provide a telescope to schools in Ethiopia
 - **Dave Newton** – Led a vote of thanks to the committee for all their efforts over the last year.

→ **Next AGM: November 2012, date to be confirmed.**



Two biggest black holes ever found

Two huge black holes may be the largest yet measured. Supermassive black holes inhabit most large galaxies. One, in the galaxy Messier 87, has the mass of about 6 billion suns – but it is no longer the record holder.

There's one in galaxy NGC 3842 with the mass of about 10 billion suns, and NGC 4889's could weigh up to 37 billion suns, say Nicholas McConnell at the

University of California, Berkeley, and colleagues. The estimates were made by clocking the motion of stars near these galaxies' cores, since a black hole's mass dictates how fast objects orbit around them.

In 2008, a mass of 18 billion suns was claimed for the black hole inside a distant bright galaxy called OJ287. But that number relies on an assumption – that periodic flares from OJ287 are created by a second black hole orbiting the first. "Observations cannot rule out alternative ways of creating those outbursts," says McConnell.

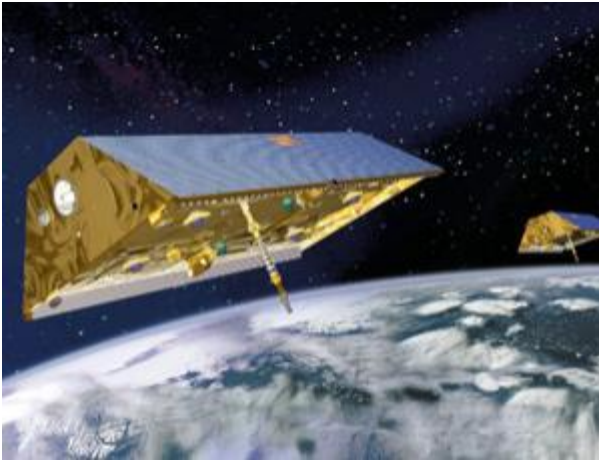
The mass of galaxies tends to correlate with that of their central black holes, but both of these holes are heavier than predicted. Collisions with other galaxies could have force-fed the holes with gas,

the team speculates. "Another possibility is that the black holes we discovered grew to huge masses early on, and their host galaxies never caught up," says McConnell.

Japan megaquake shifted gravity satellite orbits

The Tōhoku earthquake that rattled Japan on 11 March changed Earth's gravitational field enough to affect the orbits of satellites. The satellites' altered courses suggest that the earthquake was stronger and deeper than instruments on Earth indicated.

These weren't just any satellites: they are the twin spacecraft of the Gravity Recovery and Climate Experiment (GRACE), which fly 220 kilometres apart in a polar orbit about 500 kilometres above Earth. GRACE's job is to map the Earth's gravity field, and it does this by monitoring the effect of minute variations in the field on the trajectories of the satellites and the changing distance between them.



Earth's gravity field changes whenever there is a redistribution of mass on its surface. This may be a result of snowfall, flood, melting of ice caps – or earthquakes. "That perturbed gravitational field affects the satellite orbits," explains Shin-Chan Han of NASA's Goddard Space Flight Center in Greenbelt, Maryland.

Han and colleagues have already studied the effects of two previous megaquakes – the Sumatra-Andaman earthquake in 2004 and last year's earthquake in Chile. After GRACE was launched in 2002, these were the only earthquakes that had had a measurable effect on the satellites' orbits – until the Tōhoku earthquake.

Now Han's team has used that most recent megaquake to show that the disturbances of satellite orbits can be used to independently estimate the magnitude and location of earthquakes, along with estimates based on surface seismographs and GPS measurements.

The researchers calculated how the relative velocity of the two satellites changed as they passed over the affected region. GRACE records variations in the gravity field due to other processes too, but these background signals change over larger timescales than that of the quake, and so could be identified and subtracted.

The leftover signal showed that the rate at which the distance between the two GRACE satellites changed – the so-called range rate – was twice as high in the month after the earthquake as in the month prior to the event.

The researchers then built models of the earthquake using data from seismographs and surface GPS instruments, and estimated what the satellites' range rate would be in these models. They found that a model in which the earthquake was of magnitude 9.1 and occurred in Earth's lower crust came closest to the true range rate. By contrast, conventional estimates have put the Tōhoku earthquake's strength at 9.0 and located it in the upper crust.

NASA's Voyager Hits New Region at Edge of Solar System

NASA's Voyager 1 spacecraft has entered a new region between our solar system and interstellar space. Data obtained from Voyager over the last year reveal this new region to be a kind of cosmic purgatory. In it, the wind of charged particles streaming out from our sun has calmed, our solar system's magnetic field is piled up, and higher-energy particles from inside our solar system appear to be leaking out into interstellar space.

"Voyager tells us now that we're in a stagnation region in the outermost layer of the bubble around our solar system," said Ed Stone, Voyager project scientist at the California Institute of Technology in Pasadena. "Voyager is showing that what is outside is pushing back. We shouldn't have long to wait to find out what the space between stars is really like."

Although Voyager 1 is about 11 billion miles (18 billion kilometres) from the sun, it is not yet in interstellar space. In the latest data, the direction of the magnetic field lines has not changed, indicating Voyager is still within the heliosphere, the bubble of charged particles the sun blows around itself. The data do not reveal exactly when Voyager 1 will make it past the edge of the solar atmosphere into interstellar space, but suggest it will be in a few months to a few years.

Scientists previously reported the outward speed of the solar wind had diminished to zero in April 2010, marking the start of the new region. Mission managers rolled the spacecraft several times this spring and summer to help scientists discern whether the solar wind was blowing strongly in another direction. It was not. Voyager 1 is plying the celestial seas in a region similar to Earth's doldrums, where there is very little wind.

During this past year, Voyager's magnetometer also detected a doubling in the intensity of the magnetic field in the stagnation region. Like cars piling up at a clogged freeway off-ramp, the increased intensity of the magnetic field shows that inward pressure from interstellar space is compacting it.

The Voyager spacecraft were built by NASA's Jet Propulsion Laboratory in Pasadena, California, which continues to operate both. For more information about the Voyager spacecraft, visit:

<http://www.nasa.gov/voyager> .

Astro Products for 2012

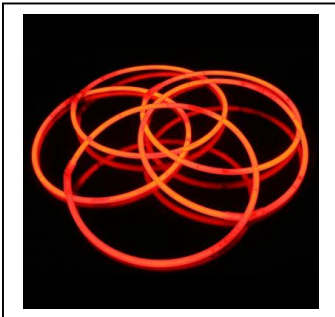
Limited supplies of these useful items still available!



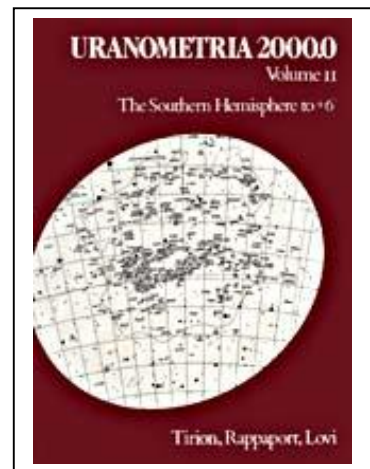
← CosmoGalactic Space Watch

No-nonsense digital watch with big, red LED display and waterproof, non-metallic strap: ideal for observing £9.99

→ **Convex, solid glass surface aluminised mirror** purchased many years ago from Sinden Optical Co. Unused, A1 condition. Seven inch diameter. Ideal for a meteor photography / all-sky camera project: £20



← **Red glowsticks** Make sure no-one trips over your tripod again by popping these handy red glow sticks on your equipment. Ooo-err. Ideal for star parties and public events. 3 for £1



→ **Uranometria 2000.0** Star charts - Volume 2 – The Southern Hemisphere £25.00
Postage options on request.
[Volume 1: **SOLD!**]



← **Red film** – red cellophane, ideal for covering your torches and monitors with: Sheet sizes 0.5m x 1m £3, 0.5m x 4.5m £9.99

SAS Hot Product

→ **Glove/mitts:** Fingerless gloves with enclosure flap and knitted elastic cuff. Black, one size fits all. £5.99 inc p&p



← Moon and stars trolley coin keyrings

Show you're an astro-nut with one of these! £1 inc. p&p

All enquiries and offers to ASEservices@aol.com or via the editorial hotline, 0191 237 0355.

Löcal News with Cövert Schelling

In a dramatic turn of events, 32 stone SAS member Tommy McAdam unexpectedly went supernova last Wednesday evening. The cosmic explosion was first detected by the William Herschel Telescope on La Palma, confirmed by shoppers in The Bridges where a massive surge in particle interactions was detected in Poundland at the same time.

“One minute I was searching in the kitchen cupboard for something to eat, the next I woke up in Sunderland General Hospital,” said an astonished Mr McAdam, who is resting comfortably in wards 7, 8 and 9. “I’m told that a neutrino shock wave can be very painful, so I’m pleased I don’t remember anything.”

There are numerous theories as to why “Big Bang Tommy” - as he is now known in his local pub, The Ivy House - underwent a catastrophic core collapse. Professor Faddeus Tarmack of the Hendonian Astrophysical Institute outlined the most likely hypothesis.

“We believe that Mr McAdam’s weight was kept in balance by the high rate of consumption of Mars Bars, constantly generating energy deep within his core. As soon as the supply of Mars Bars was stopped a gravitational collapse was both sudden and inevitable.”

Mr McAdam confirmed that he had run out of Mars Bars. “I was searching in the cupboard for anything – a Milky Way, Twix or even a Tunnock’s Caramel Wafer. I was pretty hungry and getting desperate.” It’s estimated that Mr McAdam lost three quarters of his bodymass in the supernova and now weighs in at a slim 8 stone.

“It’s fantastic,” he told us, “I feel great and can’t wait to get out of hospital. What’s left of me is incredibly dense – I’ve even got a six-pack for the first time in my life. The doctors have advised me not to turn around too rapidly or do spinning classes at the local gym, as they say I might emit radiation beams that could interfere with radar at Durham Tees Valley airport.”

The supernova shockwave blasted some of Mr McAdam’s clothes as far away as Houghton le Spring to the south and Bensham in Gateshead to the north. However, his pants have yet to be located. “They seem to have vanished into a black hole,” noted Professor Tarmack.

Researchers hope that this phenomenon could be controlled and used medically to help other people hoping to lose weight. We understand Heather Couper is writing a new book on the Supernova Diet and Professor Brian Cox is negotiating with the BBC for a new three part series.

The A to Z of



The radioactive element Battenbergium was discovered in Sunderland in 1901 by local gentleman scientist T.W. Backhouse, with the assistance of his team including Joseph Swan, Nikola Tesla and Madame H.P. Blavatsky. The work was sponsored by Heinrich von Battenberg, after whom the new element was named. Von Battenberg was a wealthy nobleman from Saxony and friend of the Curies, who were working on a similar project in Paris.

Battenbergium-237 exhibited similar properties to Radium and Polonium, but having a shorter half-life generated more heat through radioactive disintegration.

The discovery of Battenbergium-237 led to the creation of a whole new industry in the early years of the 20th Century. Products included Battenbergium salts, a popular treatment for rheumatism and dropsy, and also used for the manufacture of dyes and colourings which glowed gently in the dark.

The Battenbergium Dial Company, founded in Hendon, Sunderland in 1903, made clocks and watches with luminous dials.

The Battenbergium Perpetual Heating Stove, “for the effective heating of water and baking of cakes, pies and assorted pastries,” as the sales literature advised, was

B is for... Battenberg

first manufactured in Hendon in 1905. The radiation powered ovens proved very popular with small bakeries, as they required no electricity, oil or coal and could be left unattended for long periods of time.

This led to a number of exotic “Battenberg cakes” being created in the first decade of the 20th Century, although the pink and yellow chequerboard variety is now traditionally associated with this style of baking.

The principle of the Battenbergium Perpetual Heating Stove is still used today in the RTG (Radioisotope Thermoelectric Generator) powerpacks carried by spacecraft.

