New Zenith

The Monthly Magazine of the Vectis Astronomical Society

Vol 16 Issue 3 April 2008

Society News

From the Chairman

The worst storms of the winter did not dampen the spirits of those who attended the inaugural Isle of Wight Star Party. Telescopes were used to view the patches of clear sky, the darkness of the sky was measured and a lot of tea, coffee and biscuits were drunk and eaten. Some of our members averaged, I believe, about three hours sleep per night, proving that there was more than enough to keep the delegates occupied during the bad weather moments. One of the highlights was a fascinating talk and tour, giving an insight into the work undertaken between the mid 50's and early 70's at the Needles New Battery (*Highdown secret rocket testing site*) given by the island's own rocket man Jim Scragg. For a fuller report of the event see page 5. Many thanks to all those involved in making the event such a success. Due to the many requests that have come in, a second Isle of Wight Star Party is already in the planning stage.

The society has also been busy with its public outreach, with visits from cub scouts and local schools to the observatory. Some of our members also provided training for the Maymore Interplanetary Research Teams, which saw primary and middle school pupils undergo activities such as crater formation, the scale of the universe and rocket launching. The children then presented their findings to a panel of experts. I believe everyone enjoyed themselves immensely, and thanks to all those involved in all our outreach activities.

We are now hopefully springing in to better weather and clearer skies, and so if you had wrapped up your telescope and binoculars for the winter, now could be the time to give them a spring clean and see what is up in the heavens.

Dr Lucy Rogers
Chairman, Vectis Astronomical Society

Dark Skies on the Island

Despite some pretty wild weather at times during the Star Party, readings were taken of the sky quality on the Sunday night. The reading obtained was 21.05 using a Sky Quality Meter - see http://www.unihedron.com/projects/darksky/ to understand what this really means and for more details.

This is very good news for local and visiting astronomers as it means we still have some of the darkest sky in the UK. There is talk at the observatory of obtaining a meter for our own use and using it to maintain a record of readings taken across the IOW.

Brian Curd

VAS Website: www.vectis-astro.org.uk

Submissions or letters to New Zenith are always welcome and should be sent to:

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Material for the next issue by the 6th of the month please.

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** Correct at time of publication*

News

The future funding of e-MERLIN and Jodrell Bank

The e-MERLIN network of telescopes, run from the University of Manchester's Jodrell Bank Observatory, is the UK's national facility for radio astronomy. By connecting seven radio telescopes spread 217 km across England we can see the birth and death of stars, and study black holes and galaxies in the distant universe.

On March 3rd 2008 the government body responsible for funding research in astronomy, the Science & Technology Facilities Council (STFC), published the results of a review of projects and facilities. Although all projects were described as doing good science and of sufficient quality to be funded, they do not have enough resources to fund them all.

In the review the e-MERLIN facility, along with a large number of other projects, was deemed to be lower priority. The panel proposed that support for e-MERLIN be withdrawn from April 2009.

However, a final decision has yet to be made. There is now a period of consultation with the research community which ends on March 21st. Following this, several panels of scientists will meet to review the comments received and make final recommendations to STFC.

If this decision is made:

- Astronomers would be unable to exploit an £8M upgrade (due to be completed in 2009) which will make e-MERLIN the world's most powerful array of radio telescopes.
- The UK will lose its major observational capability in radio astronomy, a subject which UK astronomers pioneered more than 50 years ago and in which we still play a leading role.
- The UK will no longer participate in European and global networks of large radio telescopes.
- The UK will risk losing its world-leading role in this area of science and innovation.
- At least six radio telescopes will be closed down (the Mark II at Jodrell Bank and the telescopes at Pickmere, Darnhall, Knockin, Defford and Cambridge).
- Since e-MERLIN is the main activity at Jodrell Bank Observatory, it would place a serious question mark over the sustainability of the observatory as a site for active scientific observations.

You can do your bit to support Jodrell Bank by signing a petition against the funding cuts at:
http://petitions.pm.gov.uk/jodrellfunding/

Robert Hooke

Seems last month's picture of Robert Hooke caused some discussion - the general feeling is that the picture included was not Hooke at all! A trawl around the net revealed the following pictures, all purporting to be of the great man: It seems we are no further forward!





This Month's Night Sky

Moon Phases

New	1st Qtr	Full	Last Qtr
6th	12th	20th	28th

Planets

The end of April sees the start of an excellent evening apparition of **MERCURY**. This is by far the best (and last!) chance of finding Mercury in the evening sky this year as it flies through the constellation of Taurus.

VENUS has now disappeared from view in the morning sky and it will be some time before it becomes an evening object for observers in the northern hemisphere.

MARS is still showing a gibbous phase as it travels through the background stars of high-up Gemini. Its apparent diameter has decreased to a tiny 6 arcseconds - about the same apparent size as Mercury - and is therefore a disappointing object in a telescope.

JUPITER rises at around 3am mid-month and is growing in apparent size as it brightens. Its west to east motion slows and soon it will reverse its course through Sagittarius.

Although **SATURN**'s opposition was a couple of month's back it is still a nicely placed object high up in Leo. Transiting at around 21 h mid-month this is when the sky is darkening in the west after sunset so a telescopic view will be very pleasing. Through a pair of tripod-mounted 10x50 binoculars you may just be able to make out the rings and Titan may also be on show close to the planet.

URANUS and **NEPTUNE** are still unfavourable.

Meteors

There are several active showers this month;

The **Virginid** and alpha **Virginid** showers both peak on the 12th. As the Moon is at 1st quarter phase and doesn't set until 03:35 the shower is only fairly favourable.

On the night of the 22nd/23rd the **April Lyrids** reach their maximum. This time the Moon is 3 days away from Full and the shower is unfavourable this year.

On the 28th the sparse alpha **Scorpiid** stream reaches a favourable maximum.

Occultations

There are no bright events this month

Deep Sky

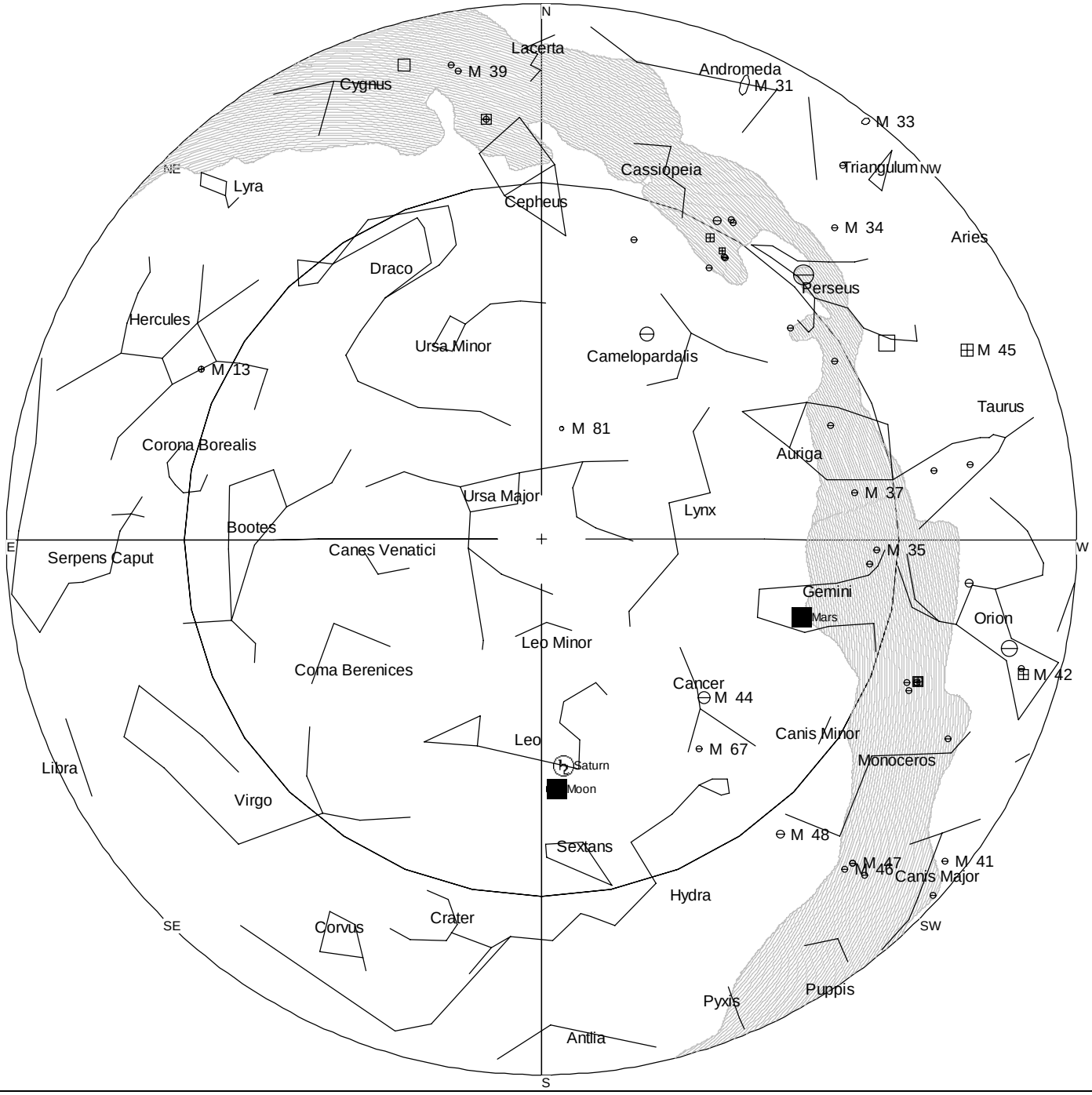
Leo Triplet M65, M66, NGC3628 R.A. 11h 20m Dec 13° 14' - Just under the lion's hind legs, in an area not much larger than the full moon, are three spiral galaxies. Using a low power all three can be seen in the same field of view. Each is about half way between edge on and face on so appear as an oval smudge with a bright core. Why NGC3628 is the largest of the three and the faintest, just (mag 9.5), why it does not have its own place in the Messier catalogue we will never know, perhaps it says something for the quality of 18th century optical equipment.

Leo Triplet M95, M96, M105 R.A. 10h 46m Dec 12° 8' - Continue towards the lions front legs and you will encounter another triplet of galaxies. This time spaced further apart but still visible in the same field of view, these galaxies are a little fainter and smaller and are nearer to being face on. A large telescope is needed to spot the barred spiral and ring structure of M95. While observing M105 look for NGC3384 & NGC3389 making yet another closely spaced triplet with M105.

NGC3521 Galaxy R.A. 11h 6m Dec -0° 6' mag 10.0 - Still in Leo but much further to the south, between Virgo and Sextans is to be found this compact spiral. As with most galaxies a large telescope is needed to glimpse any structure in the spiral arms and dust lanes, but even small 'scopes show it to have an oval shape with a bright core.

Peter Burgess

April's Sky



Leo Triplets - This small group of galaxies comprises Messier objects M65 (NGC3623), lower right, and M66 (NGC3627), lower left, along with the edge-on spiral galaxy NGC3628, upper left. The three galaxies form an attractive triplet at the heart of the M66 group, which includes a number of other galaxies. At a distance of 35 million light-years, maybe a little further, the M66 group may be related to M96 (NGC3368) and the Leo I galaxy group.

Image size 40.6x50.8 arc minutes.
Credit: REU program/NOAO/AURA/NSF

The IOW Star Party - 6th to 10th March 2008

The weekend started for me on Thursday when I set up the camper and 14" Celestron at the Brighstone Holiday Village on the south west coast of the Island. The southern panorama is 180 degrees wide and clean right down to the horizon, with France the next illumination over 30 miles away.

Guests began arriving through the afternoon and the first evening was a meet and greet with coffee biscuits and conversation keeping everybody up until 3.30am. Sleep, unfortunately, was some way off as the wind picked up to 35 mph gusting higher, and causing a little devastation round site, my awning was ripped away and an ETX90 was toppled over and the finder scope mount and one attachment arm broken. This meant that the 14" Celestron couldn't be used after all as it requires a great deal of mains and computers and with no awning for cover I couldn't really set it out, so first light will need to wait until it resides back in the observatory.

Morning came and after an enormous English breakfast repairs were started on the scopes and camper van. No lasting damage and everyone awarded themselves a “survived it” badge and moved on.

In the afternoon a group went to the observatory of the Vectis Astronomical Society for a short visit. On their return it became obvious that the weather was going to support an evening of observing so scopes were positioned and preparations made for the evening ahead.

The evening stayed clear with occasional scudding clouds right through until 4.30am and the numbers on the field were about 45 - 50 (it was dark and so difficult to tell!) there was a great variety of scopes, and rather than the expected Meade cavalcade, there was everything from small Apo's to a 20" Obsession Dob, one person counted at least 19 tripods up with dobs and binoculars as well that makes a successful first night.

I was using an 80mm APO and although most of my time was spent browsing the other astronomer's setups and making sure everyone was happy, I still managed to get some really good views of the Crab nebula and M51. everything was great until the guy next to me got out his Nagler (ooer) made my Radian seem much less somehow and started me thinking about Birthdays and Christmas. I consoled myself with some really good views of Saturn. Dave Woods from Hampshire Astronomical was there with his Sky Quality Meter and he recorded high 19s and a 20 that night, even though there was high haze.

Saturday morning brought another enormous English breakfast after which the campsite reception was rearranged to welcome the public in to see the scopes and chat. Some people chose to go exploring the Island or just shop, but those that stayed kept the 15 or 20 public that wandered through informed and interested.

Raffle tickets were pushed at people and later in the afternoon the talks began - Several talks were presented to an eager but slightly boisterous audience, the speakers; John Murrell, Owen Brazell, Richie Jarvis and David Rayner had to brave more heckling than I would have expected but it was all good natured and led naturally into some interesting off topic conversations. Which in themselves sewed enough seeds that when the talks were finished and the beer appeared the group split naturally into conversational cadres that were so engrossed in their topics that we still have a quiz and prizes left over for the next party!

There was no break in the weather on the Saturday night, and so conversation and coffee completed the night in the tea room until around 2am.

Sunday morning and ANOTHER fantastic breakfast (you gotta come just for one of those!) the morning was fine weather and with no plans to attend to until lunchtime most of it was spent saying cheerio to those who were leaving early and browsing the Planetarium shop owned and run by Paul England.

At 12.30 about 20 of piled into cars and drove to the Highdown Rocket Test Centre at the western tip of the Island. We were met there by Jim Scragg who was in charge of the rocket preparation at the site for the ten years it operated in the late 60's early 70's. We listened for an hour and a half while Jim slipped back through the years and relived those top secret times.

National Trust had done us proud and pretty much just given us the keys and free access. Jim ran round site and encouraged us down into block houses and all over concrete and steel, while he brought to life the story of working day to day in a high-test filled world, where we were world leaders before we gave it all up.
It was difficult to leave Highdown as it is such a complete site, you feel if you sit there long enough a truck might arrive with a Black Knight on the back. Still we had to go in the end, so it was back to the site and the dozen or so remaining turned their attention to more serious matters, where to have dinner. A nearby pub was decided on and we descended upon it and after a couple of hour's worth of roast animal products and local ales we emerged to find the skies were black as your hat and not a cloud in site.

Hot foot to the camp site with plans for an evenings viewing. But it never happened, after we got back we had about an hour of stars, during which time Owen Brazell recorded 21.05 on his sky quality meter and believes he saw “the Pup” in Canis Major with his 20” dob. The weather had one last hurrah for us as after midnight the winds started to rise and by 2 or 3 am we had a sustained 60mph wind coming ashore with enough rain in it to strip paint. Luckily we’d had plenty of warning so it wasn't an issue and those of us that were left barricaded ourselves into the tea room for coffee, biscuits and conversation.

Next morning, after an even bigger breakfast it was time to pack up and leave. The site was clear, the attendees were happy the site owners thought we were great and we were exhausted.

All we could think was, when shall we do the next one?

Bill Johnson

.....and a note received from Ritchie

I cannot begin to express my thanks to Stephen and Bill for their rescue work on Thursday - much appreciated! (for those that missed the fun, Thursday was not a scope-friendly level of wind - Stephen and Bill rescued Iain's ETX90 from the mud where it fell over, and re-sited and recovered my LX200 against the wind and spray from the sea. That was at 4.30am as well!)

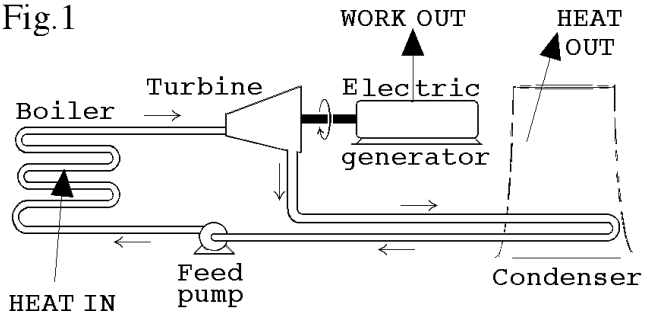
With on-site organisers such as these guys, the party ran perfectly.
Well done chaps, Cheers.

Curtains for Cosmological Entropy?

I used to teach thermodynamics, helping students to reach the boundaries of conventional logic, but I never explained quite a pitfall when scientists apply the logic to cosmology. I explain this pitfall shortly.

During the industrial revolution, experimenters wished to maximize the horse-power from steam engines. In a modern power plant, Fig.1, the feed-pump forces water into a boiler. Here the water takes in heat at high temperature, emerging as high density high pressure steam which expands through a turbine, becoming cool steam of large volume. Steam of large volume is not easily compressed, so in the condenser the steam rejects heat and becomes liquid water. The small feed-pump compresses the water to high pressure again and the cycle is repeated.

Fig.1



This machinery constitutes a 'heat engine', driven by the tendency of heat to travel from hot to cold. Some of the heat is turned into work by driving shafts and making electricity, but some of the heat, unavoidably according to the 2nd law, passes at lower temperature from the condenser to the outside world.

Now a little maths! - in Fig.1, take the ratio of the heat supplied by the boiler to its absolute temperature (this gives 'funny units' of Joules per Kelvin). Also take the ratio of the heat rejected in the condenser to its absolute temperature. Subtract the latter ratio from the former and the answer, if the heat engine be perfect, is ZERO!

A new property of matter was recognized, reckoned by dividing the heat slowly supplied to some given matter by its absolute temperature. This gives its 'entropy' increase (measured in 'funny units' per kilogram). For a perfect heat engine all the changes of entropy sum to zero. But friction, viscosity and heat conduction reduce the horsepower, causing a net increase in entropy in the surroundings.

Then it was realized that in any real process taking place in isolation, such as within a Dewar or 'thermos' flask, the entropy of the contents could only increase, regardless of what happens inside.

Engineers, who aren't bothered much about molecules, were joined by physicists, who spend much time looking at atomic detail. They announced that entropy was equivalent to 'disorder', agreeing with the increasing entropy principle. Systems of molecules tend towards their most probable states, meaning that bigger disorder is associated with bigger probability. Communications engineers also associate entropy with disorder and a 'lack of information'. Scribble is more disordered or has greater entropy than neat handwriting. Molecules forming patterns and structure, or life itself, give decreases in entropy, but our bodies give out heat so the rule of increasing entropy still applies on a net basis if we include our surroundings.

In a daring extrapolation, scientists decided that since the Universe is an isolated system because it must include all that there is, then the entropy or disorder of the Universe itself can only increase as it heads towards 'equilibrium', like a clock running down. Although the Universe shows little sign of doing this, the increasing entropy principle as applied to the Universe has never been refuted, as far as I am aware. So here is a refutation of this principle in the cosmological context.

Thermodynamics always starts with considerations of equilibrium, such as in Planck's treatise. Planck starts with considerations of a hot metal block placed in contact with cold water, in a Dewar flask, and then eventually the contents end up 'in equilibrium', all at the same temperature. Without the concept of equilibrium, thermodynamicists cannot get started. So what is equilibrium? It is the condition achieved by the contents of an isolated system, provided it is left for a very long time, in theory an infinite time is required. Some scientists (Hatsopoulos & Keenan) ingeniously used this tendency for things to reach equilibrium to express thermodynamics with fewer laws - regrettably it didn't catch on. The late Dr.Haywood of Cambridge University Engineering Department, where I studied (when the entropy of steam was measured in BTU per pound degree Rankine) based his teaching on it. The chief philosophical aspect that matters is the definition of equilibrium given above.

Now please choose any object in your vicinity and ask, how long do you think it might last? Here, I have an old Singer sewing machine and some pliers my father gave me when I was aged 5. They might still exist in 100 years time, but not in a million. Now look at that experiment with a Dewar flask, intended to 'isolate' its contents. How long will it last? Can you be sure that a meteorite will not crash into the laboratory and smash the experiment, or the glass of the Dewar flask crystallize and crack? So here comes a general question - do you think it is possible in this Universe to choose any finite quantity of matter that will maintain its identity for ever? James Dymock has already told us (NZ Nov 2006 p1) that the Earth is destined to be deep-fried when the Sun expands. That puts an end to pliers and Dewar flasks. Not even the scientist's laboratory

can endure. This seems a fundamental property of the Universe. What about a galaxy? Galaxies are destined to interact, matter will get mixed, change its identity, melt into radiation, take on new appearances, and so on.

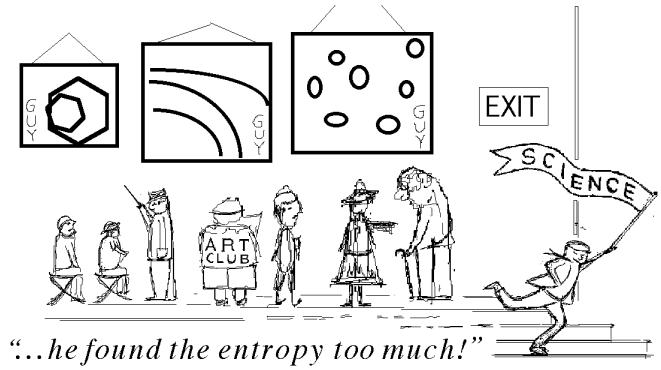
Now let me assure you that when Planck and other scientists derive the concept of entropy, they all start out with the concept of 'equilibrium'. But take a good look again - to be sure that an isolated system achieves equilibrium, you must wait in theory for an infinite time. Can you see the crunch coming? Yes - here it is, the entropy principle invokes a hidden assumption, I call it 'the assumption of the possibility of enduring isolation'. Thermodynamicists do not tell you about it in their treatises and for good reasons - for all practical purposes, you can assume that during a laboratory experiment, a meteorite is unlikely to destroy the apparatus. Philosophically, however, this isn't good enough, you have no right to assume that your experiment will achieve a condition of equilibrium before it gets destroyed - remember, theory says you must wait for an infinite time. If, however, you are practical, and many scientists are, you never bother with the hidden assumption of enduring isolation.

But the consequence of not bothering with this assumption is serious. Not bothering means overlooking, and overlooking means ignoring. So go ahead and derive the concept of entropy and the principle of rising entropy for isolated systems, and then apply this principle to the Universe. What I like about Nature and the Universe is if you get things wrong, they don't complain. They patiently wait for you to discover your mistake. And the mistake here is that in deducing and accepting the concept of entropy, you automatically have accepted the validity of a hidden assumption without noticing or being told about it. Scientists for the last 140 years have invariably followed this route. Moreover, following our own common sense, we ourselves, including Joe Public, would doubt the validity of this hidden assumption if we knew about it. Now we do know, then we should shout “hold it right there!” whenever a scientist mentions entropy and tries to apply it to the Universe, for what they then subsequently prove depends upon the Universe already obeying, of necessity, this hidden and very questionable assumption. I see no justification for agreeing with this procedure. The principle of rising entropy is already tautologically built into the concept of entropy itself and may have nothing to do with the behaviour of our real Universe! Yes, entropy is indispensable when applied to rocket motors and steam power plant but it's far too long a haul to expect it to apply to our Universe. Ah well, never mind! - if all this time our logic about the Universe has been wrong, t'was only for a pipsqueak 140 years!

Summarizing, the concept of entropy is contingent upon the nature of our existence so it ain't as objective as scientists have cracked it up to be! If I am correct, then several more theoretical arguments in cosmology which depend upon the validity of the questionable hidden assumption also crumble - this may help to clear the way for better theories, for example, violent cosmological processes would now, paradoxically, have to be regarded as sources of negentropy, order and non-equilibrium or as 'fully wound up clock springs'.

This article was prompted by Lee Smolin's *The Trouble with Physics* Allen Lane, London, 2006, describing three decades of stagnation. p256: “I believe there is something basic we are all missing, some wrong assumption we are all making.”

Thanks to Richard for many discussions, curious insights, inspirations and collaborations over several decades, often concerning order-disorder phenomena and the nature of randomness. We were busy in this area until 'dark matter' and spiral galaxy mechanics diverted our attention - the maths is now done - for more than a year!



“…he found the entropy too much!”

Dr.Guy Moore

International Sidewalk Astronomy

Following last years’s successful outing, VAS is again intending to join others around the world on

April 12, 2008
for the
2nd International Sidewalk Astronomy Night

We'll have telescopes out on the streets of the Island - *we haven’t decided quite where yet!*
but the overall idea is a simple one:

From http://www.sidewalkastronomynight.com/

“Our goal is to take scopes to the public on the same night worldwide, reaching hundreds of thousands of people and uniting amateur astronomers on different continents. We also hope many amateurs will try and like this different approach to astronomy outreach and will continue to hold sidewalk observing sessions throughout the year.”

Bubbling Cauldrons - Supermassive Black Holes in Clusters of Galaxies

Dr. Robert Dunn - Southampton University

X-Rays

Different parts of the electromagnetic spectrum can be used to investigate properties of objects. Visible and X-ray images of an area of the sky look very different - visible objects do not necessarily radiate in X-rays as well. However, X-rays are blocked by the Earth's atmosphere so satellites with CCD cameras tuned to X-ray frequencies must be used. Two such satellites are ESA's XMM-Newton and the US Chandra high resolution X-ray telescope.

X-rays have to be focused with a concentric series of mirror surfaces that reflect the X-rays at narrow grazing angles. Consequently the XMM-Newton telescope has $120m^2$ of mirror surface but this corresponds to only $0.15m^2$ of collecting area.

Clusters of Galaxies

A map of the universe shows that galaxies cluster together with empty space in between. Each cluster can contain large numbers of galaxies.

The cosmic microwave background is not uniform but contains small variations. This non-uniformity led to galaxy formation in the early universe. Areas that are relatively cold are denser and collapse under gravity faster than warmer areas. This results in clumps and filaments of matter and is a process that is still going on today.

Hot tenuous gas fills the space between galaxies within a cluster and radiates at X-ray frequencies. Colliding galaxies have relative velocities greater than the speed of sound and the results of such collisions can be seen as shock waves in the gas.

Black Holes

The centre of our galaxy contains a quiescent black hole of approximately 3 million solar masses. It is quiescent in that it is not currently consuming matter from surrounding space and therefore is not radiating

Many galaxies contain active black holes where in-falling matter from accretion discs causes jets of energy to be radiated along the rotation axes. The mass of these black holes can be estimated from the rotation rate of the accretion disc orbiting the object. The jets are also visible with radio waves and can be seen to extend into inter-galactic space. The structure of the jets is not continuous but exhibits cavities. The formation of these cavities or bubbles creates shock waves that can be seen with X-rays and is also reflected in the structure of molecular Hydrogen clouds. Similar structures can be created in viscous liquids by bubbling gas through them. The bubbles are not always aligned with the axis of rotation of the black hole. This could be due to precession of the axis so that successive bubbles are ejected in different directions. The shock wave of ejected material creates similar patterns to waves created when a stone is dropped into water.

The jets of matter from these supermassive black holes maintain the temperature of the surrounding gas. Otherwise the formation of galaxies should result in a uniform cooling and a residue of cool gas. The shock waves in the inter-galactic gas have been likened to sound waves travelling through the gas. The pitch of this sound has been calculated as B flat, 57 octaves below middle C.

Roger Young

The VAS Star Party

At the beginning of March, the Vectis Astronomical Society held a Star Party at Brighstone Holiday Centre, (courtesy of Steven and Lucy) for a few good nights Observing. The Star Party was well organized, with a Raffle, two nights Observing, Presentations and a trip to the Rocket Testing Site at the Needles Battery.

On Thursday 6th March, some people turned up with their Camper Vans and Telescopes and set up. The night looked to be Cloudy with rain at 01:00, so not much Observing could be undertaken.

I came back again with Dad on the following night bringing with me a massive Weather Forecast sheet, saying the Weather would be pretty good almost right through the night. This turned out to be the best night and many telescopes of all shapes and sizes were deployed. Dad and I set up our Vixen ED1 15 Refractor, but unfortunately, our Power-Pack died, but we could use it manually. I had a look around other peoples Telescopes and somebody let Dad and I use theirs to see M42 and Saturn. We then later retired and drove back home.

On Saturday, during the daytime we came back to the Star Party and found a shop in one of the huts, where books, telescopes and equipment were being sold. While there, we picked up a few leaflets and brochures of interest.

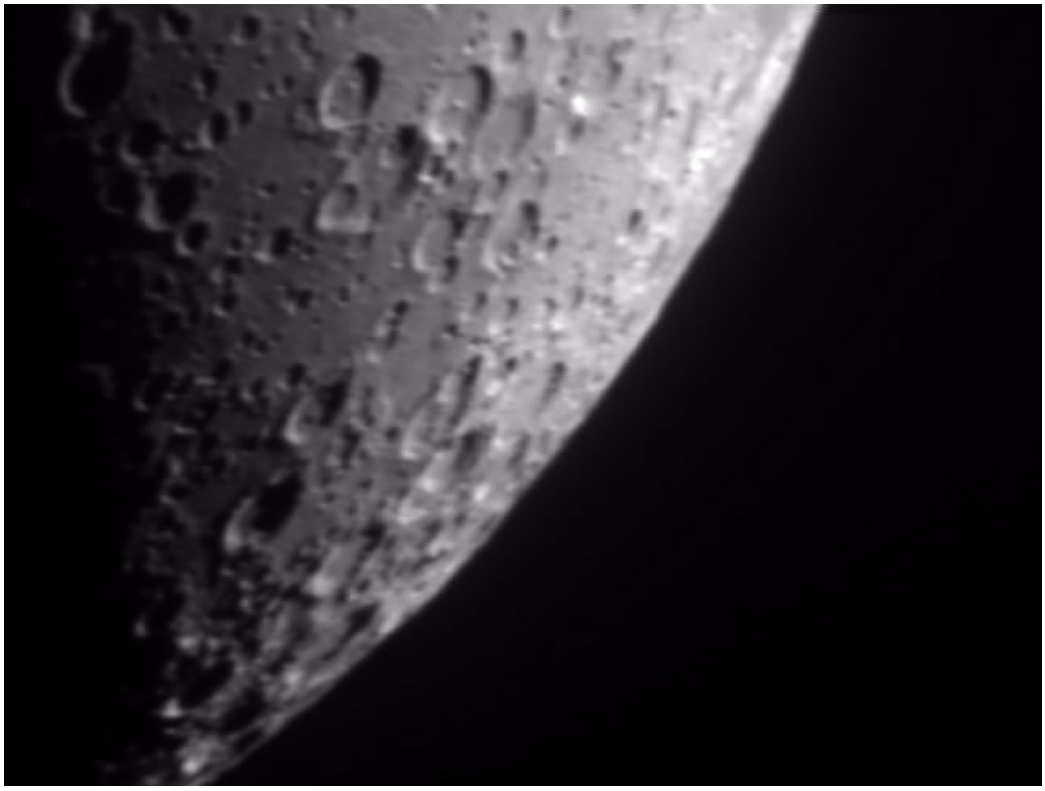
In the raffle, we won some prizes and to cap the Star Party off, we had an enjoyable night (and meal) in the Crown Inn.

Everybody enjoyed the Star Party and the VAS as a whole praise Steven and Lucy for their efforts for making the Star Party possible.

I am looking forward to the next one. Clear Skies!

James Dymock - Age 12

Member's Photographs



A couple of great views of our moon, submitted by **Tony Plucknett** - If you have pictures that you'd like to see in NZ, please email them to the Editor, details on the front page.

THE BACK PAGE

LINKS, COMMENTS AND OBSERVATIONS

Lunar Eclipse - 21st February

Well, here I am. It's mid morning and once again I find myself reflecting on another successful Eclipse, this one of the Moon that occurred in the early hours.

It was unfortunate that this eclipse occurred at that time for European observers, but I'm please to report that any inconvenience was soon forgotten as the clouds parted. I'd set my alarm for 2.30, and was pleasantly surprised when the radio station read out all the contact & totality times. I hurriedly dressed and put on my thickest winter jacket before venturing outside.

My back garden was the observing site, and my first problem was to actually find the Moon. There was a thin cloud base that covered all of the sky, but I soon notice what I can only describe as a lighter patch high in the east, that I'd previously mistaken for a star. (Well, it was the only thing I could see!)

I waited on the patio steps and soon the patch brighten to become a part illuminated moon. Slowly the clouds parted, and I could clearly see the Earth's shadow biting into the Lunar surface. It was at this point I realised that I could see just as well by retreating to an upstairs bedroom window and escaping the tree branches that were in my line of site.

I stayed at the window for the next hour and clearly watched the Moon go into Eclipse at the predicted times. Due to moisture in the atmosphere, I can't say that the moon was any particular colour on this occasion. However the 'brighter' limb did transverse from the right as I looked, to the lower left. I decided to call it a night when the cloud again caused the Moon to become a defuse blob in a cloudy sky.

Any new members should note my belief that it is always worth the effort to try and see all Lunar & Solar Eclipses. They really are special! The Vectis Astronomical Society tries to arrange viewing sessions at the Observatory if appropriate, but on this occasion we though there would only be limited appeal as the event was in the early hours of a week day.

Graham Osborne

Please note: the picture accompanying this article was taken in the USA! It seems they had rather better skies than we did...

For Sale

Super Polaris Telescope Mount

This is a high quality equatorial astronomical telescope mount. It has very stable wooden legs. There is no telescope tube or optics, but these can easily be attached using included fittings. Alternatively a camera/CCD can be fitted for astro-photography as I have done.
Included also are battery powered motors and controls which enable automatic tracking of objects. There is a selection of counterweights to balance whatever is attached to the mount.
It has hardly been used and is in excellent condition. All manuals are available free online as Adobe Reader files. It is suitable for attaching the modern short focus compact Schmidt Cassegrain telescopes.

£150 ono
Kevin West
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Observatory

For your own safety when visiting the VAS observatory, please remember to bring a torch. Also, please make sure you close the car park gate if you are the last to leave.

Articles Needed

New Zenith welcomes letters, articles or pictures related to all aspects of astronomy.
Please send contributions to the Editor at the email or postal address on the front page.