

NORMAN LOCKYER OBSERVATORY SOCIETY LIMITED

2023 ANNUAL GENERAL MEETING

Minutes of the AGM held on 10th November 2023

1. Welcome and Apologies

- a. Meeting commenced at 7:00pm
- b. Apologies received from:
 - Glenford Bishop
 - Pat Barlow
 - Kate Brittan
 - Janet Dowling
 - Allie Dunnington
 - Iain & Heather Grant
 - Nick James
 - Dave Pedder
 - Kerry Powell
 - David Smith

2. To approve the Minutes of the 2022 Annual General Meeting

Proposed by Kathleen Dollery, Seconded by Des Howlett → Approved

Matters arising:

Solar Array – requires planning permission, we have engaged architects to steer the process through. Once we have planning permission hope to get a 50% grant from EDDC/DCC

Reciprocal visit to the Royal Greenwich Observatory still to be arranged.

3. To receive the Annual Report from the Chairman

Proposed by Phil Smith, Seconded by Alan Green → Approved

Once again, we must thank all our NLO volunteers for making 2023 another successful year. Post covid we are now back to full operating speed and many of our open evenings and events have been very well attended. Our Family Fun Day of science held in conjunction with Sidmouth Science Festival on October 15th stood out as one of the highlights of the year attracting over 400 people on the day. The weather also helped with sunshine and light winds, which was great for rocket launching, jet cars and solar observing! We also hosted three Livestreaming events for Sidmouth Science Festival on Youtube, and many thanks Dave Alexander for arranging these. We managed to have one clear night showing images of Saturn, Jupiter and M31 live through our telescopes.

Earlier in the year we held our annual BSW Family Day event on March 18th with Colyton Grammar. “We are all Star Dust” was the theme under the suggested banner proposed by BSW of “Connections”. Colyton students set up their displays in the Jeanne Edyvean Centre and a good time was had by all. In April and September, we held our Introduction to Astronomy Courses, and were nearly fully booked. Many thanks to the

diehards who regularly offer talks for this event which is always popular, and we always seem to pick up new members. So, a warm welcome to all those who have recently joined the NLO. Our membership is now recovering post covid and currently stands at 235 with 13 astroscouts.

Those of you who have paid us a visit recently would have noticed many changes to the NLO entrance foyer. We now have four digital screens which can show a variety of topics, from images taken from NLO to ISS views of planet Earth and rocket launches. The content from these screens can be varied and updated regularly. The funds for this upgrade were very kindly provided by Sidmouth Town Council. The two main cabinets in the foyer have also had a major revamp after a period of some 20 years! Rebecca Naylor has done an excellent job in displaying the John Pope models of the Galilean and Newtonian telescopes as a centre piece, alongside the cabinets dedicated to Sir Norman and James Lockyer. You will also notice adjacent to the main display that the NLO now has a defibrillator. This was kindly provided by Stuart Hughes from his EDDC Locality budget. A dozen NLO members have now been trained in its use and have also done a one day training session in First Aid. We felt this was important due to the larger numbers of visitors who now attend our events. In the alcove adjoining the lecture theatre Allan Brittan has done an impressive job in erecting the Mond equatorial as a museum exhibit. This massive equatorial mounting originally held 4 cameras and was installed in the Mond dome which now houses Lockyer telescope. It was sold off in the 1980's dispersal sale and purchased by Dr Glyn Marsh who bequeathed it back to the NLO a few years ago. Unfortunately, the original pier was smashed by building contractors so we are displaying the top end of the equatorial together with the main cameras which were re-purposed aerial reconnaissance cameras from WW1. This telescope took very impressive wide field images in its heyday some 80 years ago and we shall be displaying these once we have completed the telescope.

Over in the Lockyer Technology Centre Dave Jones has now installed a further two meteor detecting video cameras, so we now have north, south, east and west skies covered, and all this data is now forwarded automatically to UKMON. The GRAVES radar meteor detecting is now operating again and we also have equipment that's picking up reflections from a UK based transmitter based at Sherwood Observatory in Nottingham.

The NLO History group have had a name change and are now the STEM Group. Many thanks to Dr. Keith Orrell who having led the group for many years is now retiring. Dr. Robin Devonshire and Prof. Bob Miles have kindly agreed to take over the organising and we are hoping to get in person audiences at the NLO for future talks rather than offering a virtual meeting through Zoom. The STEM group currently meet on the first Tuesday afternoon of the month at 2.30pm.

The Cosmology group is now being led by Mike Curran who is doing a great job in helping us get our heads around some of the deep mysteries of the Cosmos. His evenings are very well prepared, and we have had some great discussions recently. The Cosmology group meet on the 4th Tuesday of the month (7pm), currently on Zoom.

It is good to see that the NLO Astroscout numbers are growing. They have been ably led by Katie, Shona and Andy this year, with Kathleen acting administrator. Kathleen

has kindly donated her SkyPod dome and telescope which we hope to set up soon for the Astroscouts to use. We are also investigating replacing the Victoria dome since it continues to leak, despite applications of many tubes of mastic. We are proposing to replace it with a Pulsar Dome.

Have you all noticed the remarkable changes occurring in the NLO grounds? Single handedly, Heather Spratt has been whittling away at the gorse bushes with her electric saw and has made great inroads in controlling this invasive species. Heather was recently presented with Vision Group for Sidmouth (VGS) Chairman's Award. The citation: "in recognition of her many years of volunteering at the grounds of the Norman Lockyer Observatory". I think we can all agree that this was an award well deserved for the countless hours she devotes in tending for our few acres. Thank you Heather!

Looking to the future, with increasing risk to rising energy costs we felt it prudent to go ahead with our proposed installation of solar photovoltaics and battery storage. We are submitting plans for a ground mounted array on the north western corner of the NLO. This will provide energy to the inverter and battery which will be housed in the Kensington ante-room and for this we need to apply for listed building consent. EDDC has done a good job on repainting all the exterior walls and domes. We also have new aluminium fire doors fitted to the lecture theatre. Unfortunately, the higher than anticipated repair costs of the sagging Kensington dome shutter exceeded their budget this year and so this has been postponed until next spring. Contractors have been instructed to commence the repair to the cracked wall of the Kensington and also to replace the rotten window frames. As a consequence, this telescope dome will be out of action for the next month.

Beatrice Steele's Collaborative Doctoral Award into researching the Lockyer lantern slides and spectral plates has been going well. She has given a talk to NLO members on Lockyer's Archaeo-astronomical interests and also presented her research during recent open afternoons at NLO. Her work has also been gaining publicity for us, and we recently held a joint discussion over Zoom with Exeter, Yerkes Observatory and the University of Chicago as to how these historic slide collections can lead on to interesting student projects.

Forthcoming Events: We are planning to hold our South West Astronomy Fair on June 29th in 2024, and planning is now underway. This was always our prime event of the year in our calendar, but due to Covid has not been held since 2019.

Finally, I should like to thank all those regular members who come along to support our events. We couldn't offer all the events we put on without you. However, we will always welcome new members into the fold. You don't need to be an expert astronomer and we will give you easy to follow instructions on how to be a site guide or dome presenter.

Additional issues raised:

We are replacing the Victoria Dome with a Pulsar Dome costing about £7,500

We are going to install the Sky Pod dome donated by Kathleen between the Victoria and McClean domes

Bea Steele has continued scanning the NLO Archive of photographic plates and this is raising the profile of the Observatory in the academic world.

The NLO receives many group visits and the number of volunteers is very limited, please could members consider volunteering, the good news is that Mac Currie is once again helping out with school visits.

4. To receive the Accounts for the year ended 31st March 2023

Proposed by Dave Alexander Seconded by Phil Smith → Approved

Accounts are pretty well back to normal now after COVID, entrance fees up from £2k to £18K.
Subs up from £3½K to 6K

We had a further final payment of £7½K from the Estate of Colin Harris

We also had a grant from Stuart Hughes through his EDDC Locality Budget of £1,250 to purchase a Defibrillator and a number of us have been on a training course and First Aid course to learn how to use it.

Electricity – It doesn't reflect it in the accounts but our electricity costs rose a lot in the year but hopefully now we are on a lower contract it will stabilize.

5. To reappoint as the Society's Accountants Easterbrook Eaton Limited and to authorise the Directors to fix their remuneration

Proposed by Dave Alexander, Seconded by Pete Youd → Approved

6. To appoint Directors

There were five vacancies but only four nominations because Alan Green decided not to offer himself for re-election


- Vikki Brown and Pete Youd were re-elected as directors.
- Dave Jones was appointed as a Director (previously co-opted)
- Alex Rowe was appointed as a new Director

For all director appointments: Proposed by Sharon Jones, seconded by Stephen Walker → Approved

The Chairman then closed the formal proceedings of the AGM and invited the various Interest Groups to report on their achievements this year.

Dave Jones – Lockyer Technology Centre

NORMAN LOCKYER OBSERVATORY



Technology Group Update

November 2023

What did we have in 2022?

- Radio Meteor Detection using the G.R.A.V.E.S. transmitter



What did we have in 2022?

- 2 RMS cameras for optical meteor detection



What did we have in 2022?

- Green Wheelie Bin



What did we have in 2022?

- Inside is the magnetometer



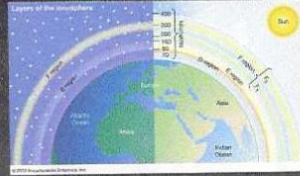

What did we have in 2022?

- Blitzortung Lightning detector



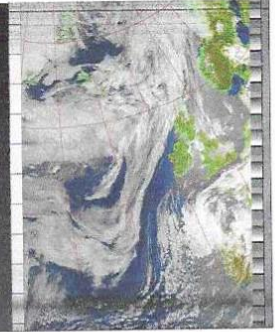
What did we Have in 2022?

- VLF Ionospheric Disturbance Detector



What did we Have in 2022?

- Receiver for decoding NOAA satellite images.



New for 2023

Updates for 2023

- Donation of a receiver for the UK Meteor Beacon Project.
- This allows us to capture meteors over the UK with the hope of real science 24/7
- We are station No. 1 in the network!



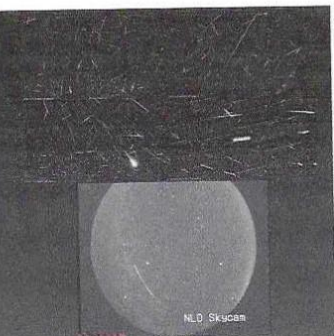
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Updates for 2023

- Installation of 2 further RMS cameras to give us N-S-E-W coverage of the night sky.
- Along with the All-Sky camera on the roof of the Lecture Theatre this gives us full sky coverage.



Updates for 2023

- I went to see the Winchcombe meteorite along with my captured image of it's journey to Earth.
- Should another occur the NLO is set to be at the centre of the discovery!




Updates for 2023

- The bin is still in the LTC !!
- It will be placed in the ground at some stage to stabilise it thermally and away from RF signals.



Updates for 2023

- We have chairs, so come up and see us!



Updates for 2023

- "Fun" Spectrometers running on Raspberry Pi's



Projects for 2024 and beyond

- Re-installation of the dish to receive the latest data from the EUMETSAT Meteosat satellites



Projects for 2024 and beyond

- Install a detector for the Schumann Resonances (SR)
- Speak to Ken for more info!



Projects for 2024 and beyond

- Seismometer for Earthquake detection. (Raspberry Pi based)

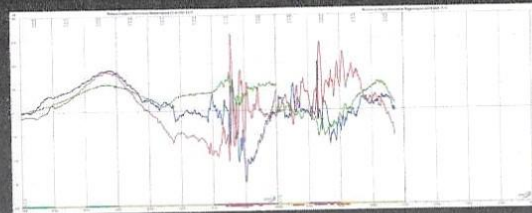


What have we seen this year that surprised us?



The bin is still here!

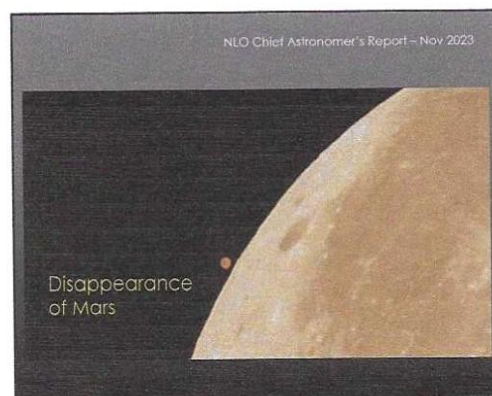
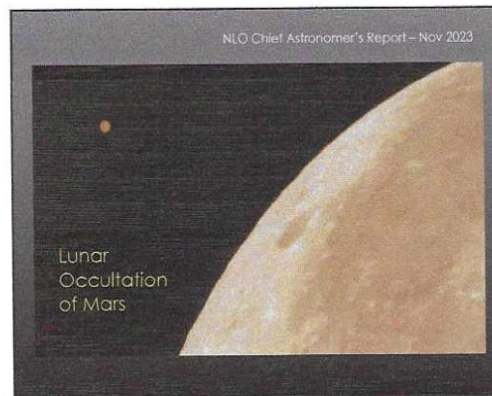
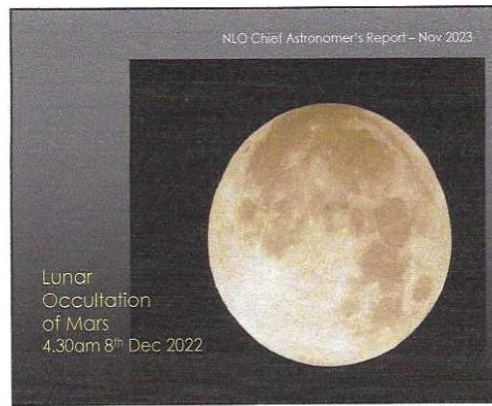
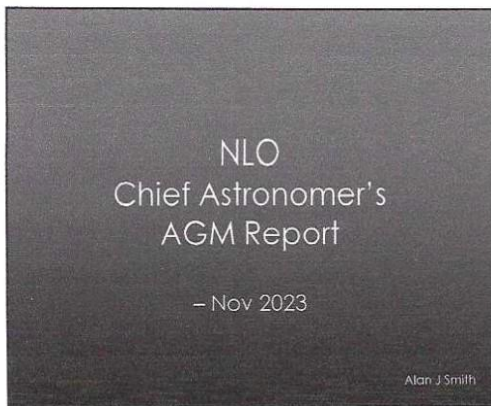
In March and April we saw this....

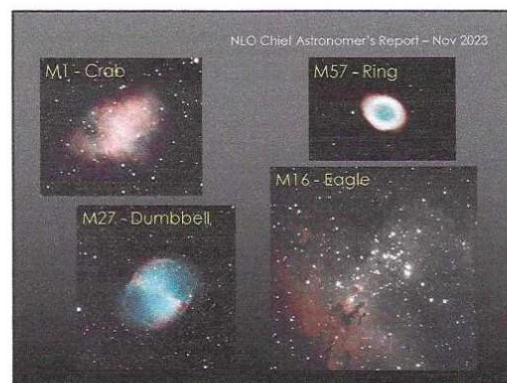
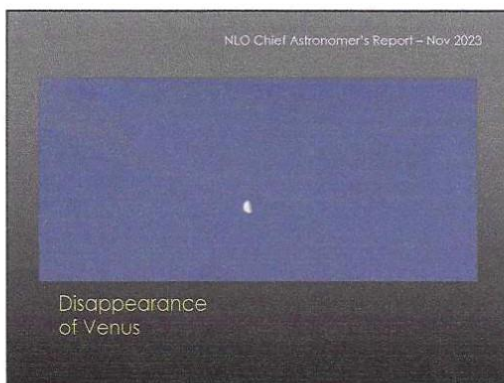
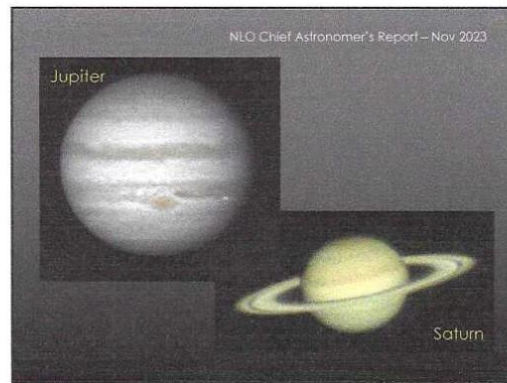
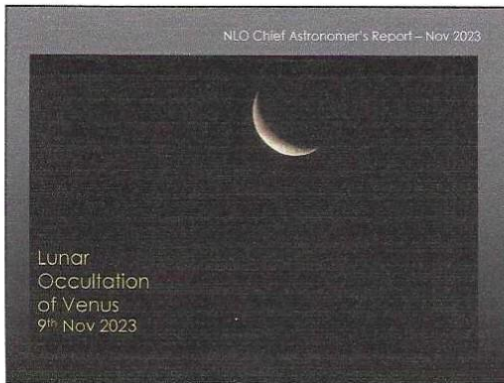
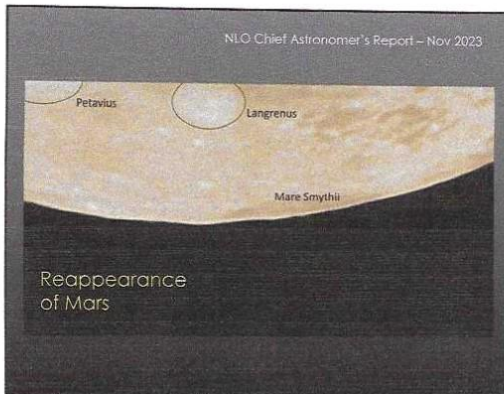


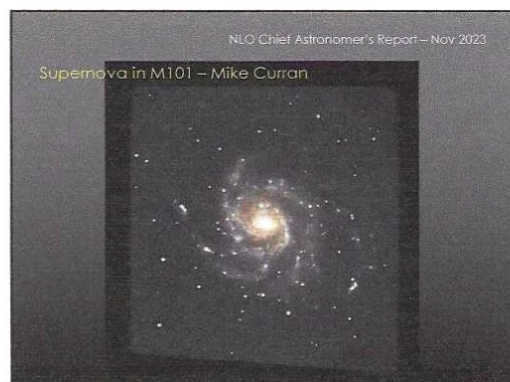
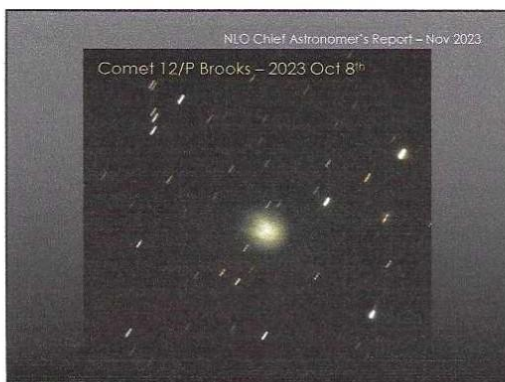
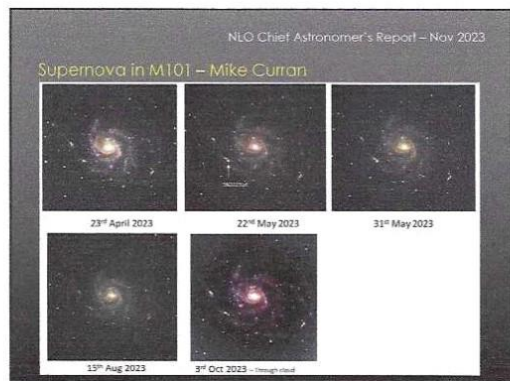
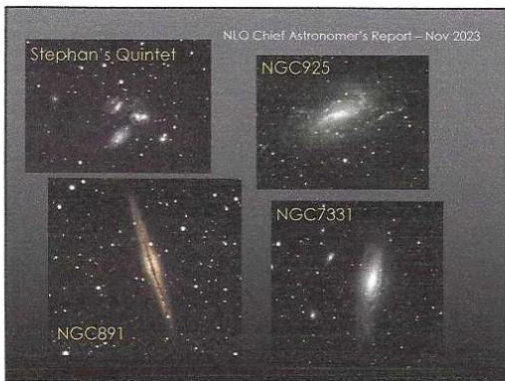
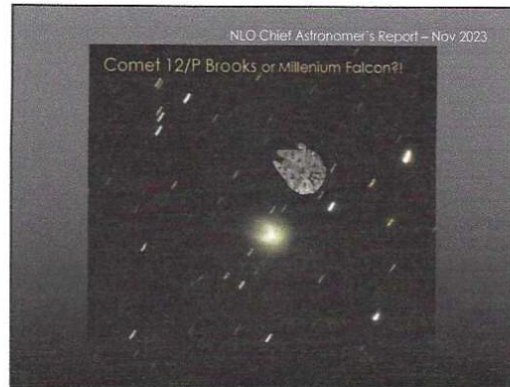
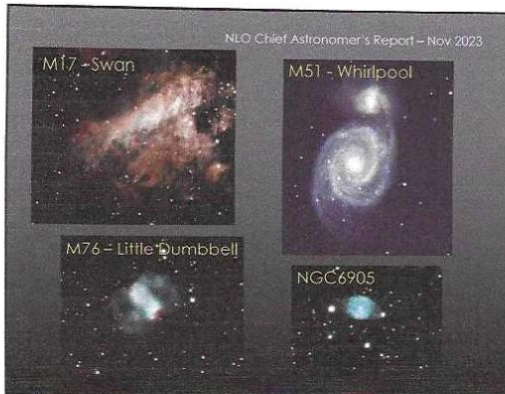
In March and April (and November!!) we saw
this....

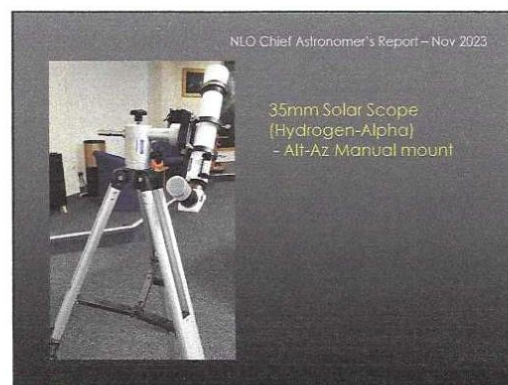
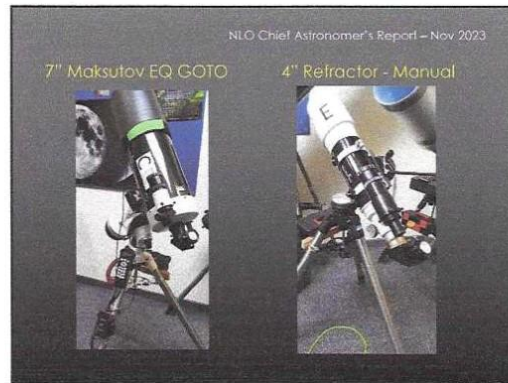
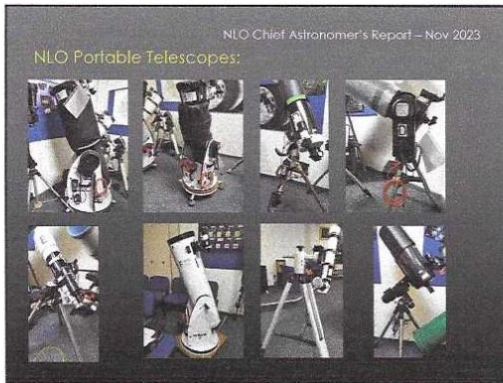
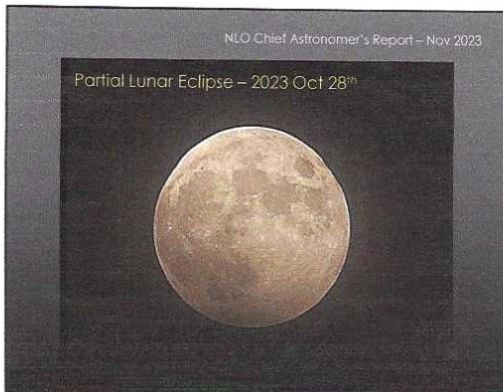


Alan Smith – Observers' Group









NLO Chief Astronomer's Report – Nov 2023



Accessories:

- Finder Scope
- Toolbox – eyepieces etc.
- Dew Heater / Shield
- Silicone 5m 12V Power Cable
- Labels & setup instruction sheet
- + manuals on request!



NLO Chief Astronomer's Report – Nov 2023

NLO Monthly Sky Highlights Email
– if not received, contact Pete Youd

Observers Email Forum @ Groups.Io
– administrator – David Strange

Portable Telescopes
Freely available for members use!
– training sessions – Alan Smith

Victoria & Connaught Domes
– upcoming training sessions – David Strange

NLO Chief Astronomer's Report – Nov 2023



Rolling Power Box:

- Retractable Handle & Wheels
- 4x 12V Power Sockets
- LED warning lights
- Voltage Display




NLO Chief Astronomer's Report – Nov 2023

Guided Observing / Workshops
– selected dates - check NLO Calendar


Weather is THE limiting factor!

If it's cloudy - come anyway and **practise** how to setup & use telescopes safely!

If it's clear - come & learn how to find your way around the sky and find/observe objects!



Experienced members:
– do please come along in and share what you've discovered about observing with others wishing to learn!

NLO Chief Astronomer's Report – Nov 2023



Rolling Power Box:

- 12V / 18A Power Supply
- Waterproof Mains Extension Reel
- Various Filters – planets / Moon
- Basic tools / spare fuses
- Spirit level / Bahrtinov mask

NLO Chief Astronomer's Report – Nov 2023

Looking Ahead!

Planets
– **Jupiter & Saturn** well-placed
– **Mars** too, next Autumn

Total Solar Eclipse – April 8th in USA *not UK*

Partial Lunar Eclipse – Sep 18th ~3am

A Bright Comet?
– C/2023 A3 Tsuchinshan-ATLAS – mag.0
– Morning sky / late Sep
– Evening sky / from mid-Oct

NLO Chief Astronomer's Report – Nov 2023

Tonight?!

Brightest of the Local Group Galaxies:

- M31 - Andromeda Galaxy
- M32 & M110 companions
- M33 - Pinwheel Galaxy
- NGC147 & NGC185

Planets:

- Jupiter & Saturn



NLO
Chief Astronomer's
AGM Report

– Nov 2023

Alan J Smith

Robin Devonshire – STEM. The Science and Technology group continues to meet at 2.30pm in the afternoon on the 1st Tuesday of the month with talks about the historical aspects of Lockyer and science and technology in general.

Astroscouts Report by Andrew Anning (Presented by Kathleen Dollery) - Autumn 2022 to Summer 2023

At the beginning of the autumn term 2022, Kathleen after many very successful years as Astroscouts leader asked to stand down and new leaders were looked for. This was quite a challenge for anyone to follow, however a small team was organised consisting of, Mike Curan, Jeff Legg and Andy Anning to provide talks and activities with Kathleen providing administration and some support as stand-in leader as required. This provided cover until Christmas 2022 when for sad family reasons Andy had to stand down.

Two previous junior Astroscouts namely; Katie Swinny and Shona Murdoch who had completed their GCSE in astronomy with Kate, volunteered to run the Astroscouts from the New year through to the summer. This they did brilliantly with both the students and the parents having a very entertaining year. We must thank them both for this super achievement as they were both only 16 when they started this.

Autumn 2023 to Summer 2024

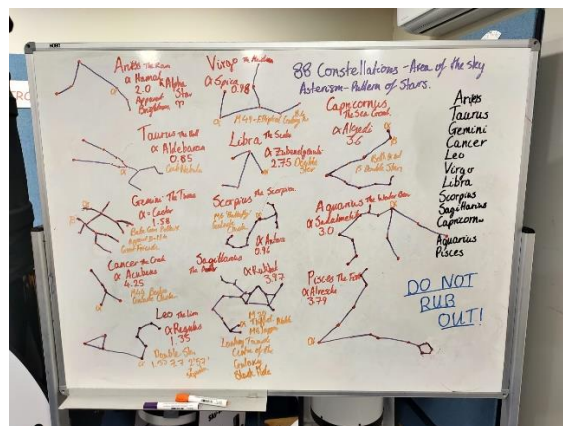
Towards the end of the summer break Katie decided she wished to concentrate on her school work and preparation for her university application, which we wish her well with but know she will do superbly now and in the future. Fortunately for us Shona was prepared to continue with Astroscouts so with support from Andy (me) we have been providing cover from the start of the autumn term. Kathleen has also continued with administration to help reduce that burden.

Currently there 16 registered students, although 3 from previous years have not yet attended, so may drop out, but we have had 3 new students join in the last 4 weeks and are becoming regular attendees. We have had between 9 and 12 students each week so far this term.

The students and parents seem to enjoy themselves, and parents are reporting that this is one activity they do not have problems getting to as the children are ready and keen to get here. The students are lively and highly interactive so although quite noisy (no apologies) and full of energy especially when outside it makes a fun class to run. This year alone we have been in the Kensington and Lockyer telescope domes and with Alan Green's support had an interesting time in the planetarium.



Andy on the ladder in the Mond dome



Shona's drawings of zodiac main star formations

Some help required

Last year a request was put out for a new Astroscouts leader, this is still the case.

Shona and myself (Andy) will, to the best of our ability continue to support, however Shona is also preparing for university next autumn so will also be busy with school work. I have other commitments outside the NLOS so preparing a lesson every week is not sustainable for the whole year. In addition, I have some engagements which will fall on Friday nights from time to time, including looking after our grandson on the odd weekend without much (if any) notice.

We need therefore, either:

a) A new long-term leader, who Shona and I will support if requested and as we are able.

Or

b) As a minimum for this year, help from other NLOS members who are prepared to do some talks and activities to reduce the load for us and be available to stand-in, often at short notice.

Ideally, the Astroscouts would be best supported by a small team over the longer term.

Please volunteer if you are able. It is great fun and the students and even the parents are quite forgiving, remember it is not school. I have no formal teacher training or experience and just learning as an amateur astronomer as many of you are. You do not need to be an expert.

Report from:

Andy Anning

(Astroscouts support team)

Alan Brittan – Chief Telescope Engineer

Alan put in a plea that if anyone had any information, documents or equipment that was somehow related to the NLO, that they make sure that their family was aware of it so that it did not inadvertently get thrown away.

Mike Hitchings then gave a vote of thank to Alan Brittan for all his hard work maintaining the historic telescopes.

Alan Green gave a vote of thanks to the Thursday morning gang who come to do maintenance at the Observatory on Thursdays.

Mike Curran – Cosmology Group. The group continues to meet on Zoom at 7.30pm on the 4th Tuesday of the month.