

Edited by Robert Shanks

Welcome to the newsletter of the Blackburn Leisure Astronomical Society. Wishing you and yours all the best and clear skies for 2020!

If you wish to write an article and/or publish your work for reference from this newsletter please send files to the editor for upload to the BLAS website [Members Publications area](#).

All contributions are welcome! Remember, this is your newsletter!



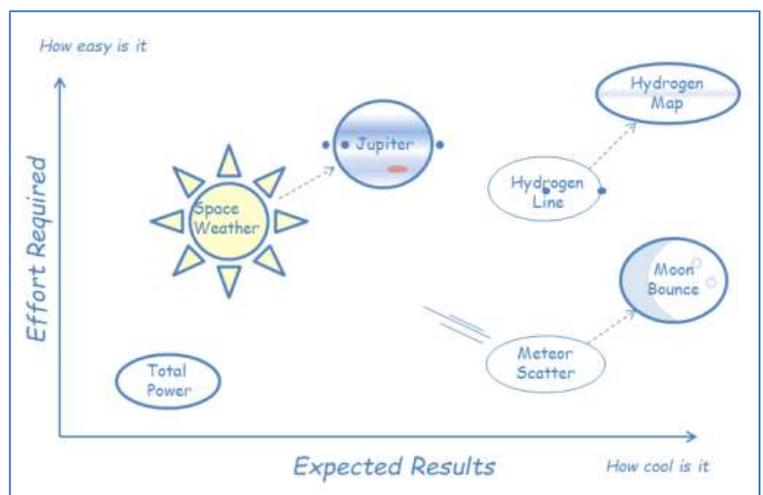
The last Club meeting was held on the 27th January 2020. George King announced plans and objectives for this year. The club is in a good financial position and members have enjoyed the Christmas meal and raffle. Forthcoming events include a full diary of activities for 2020 including Scouts, Guides, Cubs & Brownies along with camera club visits.



How Cool is Radio Astronomy?

Andy Russell presented an overview of Radio Astronomy plans and options, currently under consideration. The first radio observations that we made at BLAS in 2019 were the reflections of the French GRAVES radar from the ionised trails of meteors, and accidentally from the surface of the Moon. Moving forwards, there are a number of potential projects, from monitoring Space Weather to listening to storms on Jupiter, to mapping the rotation of the Milky Way using the 21 cm Hydrogen Line. Whilst some of these projects, such as meteor scatter, are relatively easy, others require more effort and hence a 'Coolness Graph' was presented. The radio observations that can be made in the residential area where BLAS is situated are limited by the weak radio signals that are emitted from astronomical sources and by man-made electrical interference from devices such as LED lights and solar inverters, and is a similar problem to light pollution. The wavelength of radio waves that are emitted by an object are governed by the underlying physical processes that create them, and together with the relative size of the antenna that it is practical to build, determine the sensitivity and angular resolution of any measurements we can make. As a result of the above constraints, we are restricted to making indirect observations that measure the effect of an event upon external radio signals, or to observing the stronger radio sources that are closer to the Earth. However, computer processing techniques, similar to those in optical astronomy, can be used to extract useful data from the background noise and to build up maps from multiple observations. Further detail can be found on the BLAS website Radio Astronomy section or the forum on [Groups.IO](#).

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Tim Old gave another update on current space missions including [Chang'e-4](#) which has now spent 1 year on the lunar surface!, the Indian [Chandrayaan-2](#) reconnaissance orbiter, the job of the [Parker Space probe](#) and its importance in looking at the sun on our space weather. Discussion turned to the [Carrington event of 1859](#) and considered effect of such an event on our infrastructure today.



Lunar Secrets!

The new year of lectures was also kicked off with a HERAS lecture by soon to be Professor Samantha Bell from Manchester University on Jan 20th. Samantha is a geologist who has specialised in lunar geology and has worked inside NASA's Johnson Space Centre. She gave an interesting insight into the security of lunar samples as well as a fascinating overview of what has been learned in the last 50 years from the 382Kg of moon rock returned on the Apollo missions, what the future may hold for lunar exploration and what mankind's benefits will be. Anyone wishing to join HERAS and benefit from their interesting and varied lecture program should See Helen Marshall. Keep a close eye also on the Café Scientific website for Science & Astronomy lectures. These are given in the Potting Shed in Beverley where the importance of double binary stars will be discussed in June.



Tues 18th Feb will be a film night at BLAS showing [Apollo 11 \(2019\)](#) now released on DVD. Reviewed in newsletter 14, this film shows all 8 days of the journey to the moon and return to Earth from never before seen camera perspectives and re-processed 70mm wide angle archive footage. The film will show at 8 PM so sit back and bring some pop-corn.

Strange Lights In The Sky Named!

Last month's article on the [Starlink satellites](#) seen [here](#) has prompted much consternation amongst the Astronomical community. They have also been spotted by NEMETODE in their meteor visual observations earning them the name "Musk Rats" in some quarters!



Stay tuned for BLAS Facebook page! Our newest and youngest member Eleanor Russell has volunteered her services to complement our activities. Thank you Eleanor!

Please continue to use the web space. Active members this month include some great deep sky objects by [Doug Sharpe](#). If you are having difficulty uploading images, please bring it to the attention of the site owner via email. Previous news articles can be accessed [here](#) and a newsletter index will be added to make looking back easier.

