

ASTRONOMY SECTION REPORT 2011 – 2012 session

Total Lunar Eclipse June 15th 2011

There was a total lunar eclipse on the night of June 15th at moonrise. From London the moon rose already totally eclipsed but in a light sky. Totality was a long event as the moon crossed the centre of the Earth's shadow. However, as usual cloud and rain did its best to ruin the event from London, but Simon and Ennio decided to go to Parliament Hill where they were rewarded with a brief view of the eclipsed moon through gaps in the cloud cover. Jim Brightwell, continuing his eclipse chasing, made a flying visit to Rhodes (Greece) to view the eclipse at a greater altitude and in perfect weather.

Visit by Friends of the Royal Astronomical Society – Saturday June 18th 2011

By arrangement with Peter Hingley and Marcus Hope, 18 members of the 'Friends of the R.A.S. visited the Observatory on Saturday June 18^{th.} Despite overcast skies with occasional showers, the Sun broke through occasionally and allowed the visitors to view the Sun with Brian Bond's Coronado H-alpha kit. One reasonably large sunspot was seen together with at least one large prominence on view. Doug Daniels gave the visitors a short talk on the history of the Society and the Observatory and then led the visitors down to the Holly Bush pub to partake of lunch.

Sussex weekend Astro Camp July 8/9th 2011

Thirteen members attended a weekend astrocamp organized by Simon Lang. The location was at Simon's brother's cottage near Lewes Sussex. The site has a good dark sky and was chosen to give members the opportunity of observing some of the fainter deep sky objects now denied to us by the light pollution in London. In the event the weather once again failed to cooperate and restricted the viewing to a few of the brighter objects. Simon took his 12-inch Newtonian and this provided a stunning view of M13. Other objects viewed were Saturn and just before dawn, Neptune and Jupiter, with the South Equatorial Belt now once more in evidence.

Observatory working party Sunday August 21st 2011

Seven members joined Doug & Julia Daniels for a few hours to prepare the Observatory prior to the start of the new session, planned to begin on 16th of September. After last year's exertions we were content to limit our activities to clearing the path and steps of weeds and generally tidying up, dusting and cleaning the building. Despite a poor weather forecast, the day proved to be dry and warm and ideal for the planned tasks. Before the work began, 30 visitors from the Hampstead Walks turned up and were given a short talk by Doug on the history of the HSS and the Observatory.

Herstmonceux Festival of Astronomy September 2011

On Saturday Sept. 3rd. Doug Daniels and Terry Pearce traveled down to Sussex to the Annual Festival of Astronomy held at Herstmonceux Castle the old home of the Royal Greenwich Observatory. The journey down on a warm sunny day promised a fine night to come, but as is so often the case this turned out to be a false promise. The very moment that we arrived coincided with a change in the weather and by nightfall the cloud cover was total. We spent the night in Terry's flat in St. Leonard's and returned to London later on Sunday evening disappointed not to have had a look at Jupiter through the many telescopes in the camp field or through any of the old Greenwich instruments that still function, albeit to a limited extent, but we were informed that renovation will soon begin.

New Session 16th Sept. 2011

The new session of public open nights began on September 16th 2011. When Julia and I (DGD) left home, the sky was reasonably clear but the cloud reached the Observatory at the same time that we did, and remained throughout the session. About 20 visitors turned up and we spent a couple of hours discussing things astronomical. All agreed that it was a pleasant evening despite the poor weather preventing any actual observations.

The main object of interest this session was Jupiter, now attaining better altitude in Aries. On the night of Sept 29th Doug Daniels obtained an image with a 150 mm Mak Cass. The image showed that the SEB, missing last session, had returned. The NEB appeared quite dark with a particularly dark notch visible in the image. The belt is also quite red in colour. The GRS was also seen visually looking pink. at the moment. Conditions were far from perfect with quite high temperatures and slight haze after an unseasonably hot day reaching 28 degrees! The clear warm weather continued and on the evenings of 31st Sept & 1st of October, the Observatory open nights were both well attended, Over 50 visitors on Oct. 1st were able to see the GRS and considerable detail in the cloud belts – all in pleasant warm conditions as the day time temperatures registered 29.4 degrees – a record high temperature for early October!

Visit to Observatory by R.A.D.A. students

Following a request by Sebastian Harcombe, 10 students from the Royal Academy of Dramatic Arts, visited the Observatory of the evening of October 4th. Unfortunately, as is so often the case with arranged visits, the sky was totally overcast so no observations were possible. However, DGD managed to entertain the students for an hour or so by talking about the history of the Society and Astronomy with particular attention to some of the astronomical references in the works of Shakespeare et al. It is a pity that the poor weather precluded any telescopic observations, but the students seemed to enjoy the experience which we hope helped to widen their horizons and we thank R.A.D.A. for their kind donation of £25 towards the Observatory Fund.

Some unseasonable fine weather meant that the Observatory was in great demand on the weekend of 14th, 15th and 16th of October – rare to be clear on all 3 public open sessions. On the 14th over 45 visitors were able to see Jupiter and the Moon close to full. A similar number of visitors observing Jupiter witnessed a nice shadow transit of IO on the 15th and on the Sunday morning the 16th there was a fine crop of sunspots to be seen. However, cloud soon built up to spoil the view.

After a couple of years at low declination, Jupiter is at last attaining greater altitude in Aries. Last year the SEB was noticeable by its absence, but this year it has returned to prominence. The NEB is distinctly brown in colour with a very dark elliptical 'barge' on its northern edge. The GRS is also very prominent and distinctly pink followed by a light oval and the whole SEB is double and there is much detail in the north polar region. The planet came to opposition on December 3rd and it gave some of the section's imagers plenty of opportunity to record the details of its changeable turbulent atmosphere.

Sky at Night team visit to Observatory Oct. 19th 2011

On the 19th of October, the BBC Sky at Night team visited the Observatory to film material for the November screening of the popular television programme. The programme featured the planet Mars



Hampstead Scientific Society

which came to opposition in March 2012. The presenters, Paul Abel and Peter Lawrence interviewed Doug Daniels who showed them the Society's archive of Mars observations which span a century. They then interviewed John Culshaw (the TV impressionist) about his experiences visiting the Observatory. Fortunately we had a clear night and later when darkness fell we were able to observe Jupiter and to record it live using an Astrovid video camera attached to the Cooke. Several members of the section and some members of C.A.T.S. came along as well, and John Durham brought his 6-inch Dobsonian built by him at CATS. The whole session lasted from 4:30 pm until 10:30 pm. The programme was transmitted on November 6th on BBC1 and there is a link to a 'clip' featuring the Observatory on the Sky at Night website and also on YouTube.

STARGAZING LIVE (SG2) January 16th - 18th 2012

Following last years success (partial!), the BBC decided to go for another series of Stargazing Live and we once again agreed to participate in the venture. The first hurdle to overcome was getting our opening times on to the BBC's wretched 'user unfriendly' Web Site which refused to accept our Observatory location. It took the best part of a week to get things sorted out requiring the assistance of the BBC's IT department, who at times seemed equally baffled by it. Nevertheless, once up and running it provided excellent publicity for our events and this year, thanks to the guidance by Anna Barlow, we managed to get some local publicity in the Camden New Journal, which featured an interview with Doug Daniels.

The television programmes again featured the comedian Dara O'Briain and Professor Brian Cox and went to air on January 16th, 17th and 18th. Our involvement consisted of opening the Observatory from Jan, 13th through to Jan. 22nd and sending several representatives to the BBC's major local event at Charlton House Greenwich on Jan. 17th. Accordingly, Simon Lang, Ennio Tabone and Kevin McNulty ventured south of the river armed with a variety of activities to involve children, from mirror grinding, making a Sun pin hole projector box and a simple spectroscope to a "make your own crater" activity.

The first open weekend at the Observatory was blessed with crystal clear skies and very low temperatures which did not deter huge numbers of visitors from turning up – 50 plus on Friday and over 100 on Saturday and a similar number on Sunday, taking advantage of Brian Bond's H-alpha telescope to view solar prominences and sunspots. The evening session mainly consisted of observing Jupiter with the Cooke telescope and other winter sky objects with instruments brought up by other members Ennio, Simon and Slim. Once again the BBC provided us with the very useful little star guide booklets to hand out to visitors, particularly to children. And there were sets of 'activity cards' which were equally appreciated.

February 2012

February began with a spell of very cold weather and quite heavy snowfall. We had to close the Observatory at the weekend of Feb. $10^{th} - 12^{th}$ as the dome and shutter were frozen solid and it was judged that ice on the steps rendered them hazardous for visitors. The cold weather did not last very long and we had some very clear nights during the month. Visitor attendance remained high – too high at times, thanks to all the publicity that we received in January. Jupiter, Venus and Mars were well placed for observation with Mars soon to be in opposition in early March. Despite the small disk size of 14 arc/sec, some detail could be discerned.



More filming at the Observatory March 8th 2012

On March 8th, a BBC2 film crew came to the Observatory to film footage for a forthcoming edition of 'The Culture Show', due to go to air on 16th March. The programme discussed the implications of the Voyager Space Mission as Voyager 1 is about to leave the Solar System and is headed for deep space. It was a fine night so we were able to show the visitors, Venus and Jupiter, approaching conjunction on 13th also Mars and a Full Moon. They donated £50 to the Observatory fund, for which much thanks.

During March 2012, Venus and Jupiter dominated the western sky after sunset, coming to conjunction on March 15th. There was an unexpected clear night on March 15th and I was able to obtain an image through my bathroom window using a Canon compact A2200 camera. A few days earlier there was an alert concerning enhanced solar activity which raised expectations of possible Auroral activity. There were many fine images of auroral displays posted on the Sky at Night Flickr site by northern observers, but no activity was seen from our latitude.

Towards the end of March we were fortunate to experience a spell of settled fine weather with record temperatures for the time of year. This, together with the proximity of Venus to Jupiter in the western sky and the publicity we had received earlier in the session, resulted in large crowds gathering at the observatory. On Saturday 24th March, over 100 people turned up to observe Venus, Jupiter and Mars, the latter just past opposition on March 3rd.

The high atmospheric pressure resulted in fairly good 'seeing' (about 3) and despite the small disk size of 31.2 arc/secs, some detail was seen under high magnification. Mare Acidalium was prominent and to the south, Margaritifer Sinus, Mare Erythraeum and Aurorae Sinus were evident. The northern polar cap was small and bright contrasting with a dark Mare Boreum.

End of current session

Towards the end of the current session, the number of visitors began to fall towards 'normal' levels. The last open weekend was on the 20th, 21st and 22nd of April. Without doubt, this session has seen a dramatic rise in visitor numbers and to cope with this, demonstrators and assistants have had to cover more duties. Sadly, at the end of the session, we had to say farewell to Ennio Tabone who is moving to a new job and life in Dorchester where he will also enjoy darker skies. We thank Ennio for all his good work and wish him and his family all the best for the future. We also take this opportunity to thank all our Demonstrators and Assistants who volunteered for extra duties giving their time to ensure that visitors enjoyed their experience at our Observatory which is still our main interface with the public.

Last year I reported that the section experienced its busiest session ever recorded, but this year exceeded that. Over 1000 visitors took advantage of our unique facility and they contributed a record amount to the Observatory maintenance fund. This demonstrates the power of publicity afforded by the mass media – the press and television. However, there were times when we were almost overwhelmed by this attention and it is fortunate that we have so many enthusiastic amateur astronomers willing to share their knowledge and experience with the visiting public, for which we thank them. We also take this opportunity to thank Julia for keeping the Section's accounts in order and Leo for auditing them. We also thank Julia for organizing the Observatory roster this year when unforeseen circumstances prevented Simon from doing it.



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Finally the Transit of Venus (2)

On June 6th 2012 Venus again transited the Sun. This was the second of the pair of transits separated by eight years; the last one was on June 8th 2004. In 2004 we had ideal conditions when the entire transit event was seen from the Observatory under cloudless skies. The recent transit was never going to be as good because from our latitude only the last hour of the transit would be visible at sunrise. This meant that the event was not observable from the Observatory as an unobstructed north eastern zero horizon was required. Weather conditions were also far from ideal, the days leading up to the transit, featuring the Queens' Diamond Jubilee bank holiday weekend, were overcast and raining and the forecast for the early morning of 6th was not very hopeful. Simon had considered taking a group to the north Kent coast if it looked as though it might clear up but in the event decided to try to observe it from Alexandra Palace. Unfortunately the cloud persisted and only a brief view of Venus at the last stage of the transit was glimpsed.

