

RADIO SOCIETY

of Great Britain_

DRAFT/UNCONFIRMED

PROPAGATION STUDIES COMMITTEE

Minutes of a meeting of the Propagation Studies Committee held in Leicester on Saturday 15th October 2011, commencing at 1300hrs local.

1. Members Present

| | | |
|-------------------|-------|-----------|
| Prof. M. Harrison | G3USF | Chairman |
| Mr S. Nichols | G0KYA | Secretary |
| Mr R. Smith | G3SVW | |
| Mr G. Williams | G4FKH | |
| Dr J. Worsnop | G4BAO | |
| Mr A. Melia | G3NYK | |
| Mr S. Jewell | G4DDK | |

Apologies for absence were received from Prof. Barry Chambers, G8AGN and Mr Chris Deacon G4IFX.

2. Minutes of last meeting held on 2nd April 2011

Accepted as a true and accurate record.

3. Matters arising from the minutes

A discussion was held about problems with the RSGB reflector. Some members are not receiving messages and/or attachments. A decision was made to move to a Yahoo Group, which will give us more control and also file/photo areas. If the trial is successful we would move away from the current RSGB reflector. **Action: G0KYA**

Re. Item 8 in the last minutes, France has decided to go ahead with a JT65 beacon, but not specifically for TEP studies.

Re 7.1 Martin G3USF did not go to the region one IARU conference in Sun City. He did however submit a report and was duly re-elected as the beacon coordinator.

Re. 7.2 John G4BAO pointed out that the Bristol beacon was on 2.3GHz (13cms), not 13GHz as specified in the minutes.

A US 2m transatlantic beacon has been offered to the UK that could be sited on the extreme western coast of Northern Ireland. Sam G4DDK suggested that the PSC might like to take this on as a project. We would need to apply for a licence. The frequency allocation might be difficult as our beacon allocation is different to the US's. John G4BAO will adopt this as a project leader and will progress it. **Action: G4BAO**

There have been no reports of reception of the 4m US transatlantic beacon in the UK. But there are unconfirmed reports that the US 2m beacon has been received in the UK.

4. PSC Membership

Leslie G0CIB will no longer be our RSGB Board representative as he has resigned. Our thanks were expressed as Leslie was a committed advocate of PSC and a great help, especially at Newark. Steve G0KYA will write to him to record PSC's thanks. **Action: G0KYA (now done 17/10/11)**

Sam G4DDK suggested that Nick Shaxted DL/GM4OGI might be approached to become a corresponding member due to his detailed reception of UK beacons. His PhD thesis was on propagation and he is currently working on a couple of projects in the field of propagation that might be of interest to PSC.

Sam will pass Nick's email address to Steve G0KYA who will contact him and invite him to become a PSC corresponding member. **Action: G4DDK/G0KYA**

Martin G3USF stood down as chairman at the meeting (but will remain as a full member) and was succeeded by Steve G0KYA, with Chris G4IFX as secretary. Martin was thanked for all his hard work over the years and presented with a copy of the RSGB's new Radio Communication Handbook, which was duly signed by all present.

5. Topics for discussion

5.1 PSC involvement in Newark Hamfest/RSGB Convention

This year's Newark Hamfest was held on Friday 30th September 2011 and Saturday 1st October 2011. PSC was approached and asked to consider **not** attending this year to save the society money. A decision was made not to attend, but Steve G0KYA, John G4BAO, Alan G3NYK and Sam G4DDK attended Newark as visitors and were surprised to see many of the RSGB's committees still represented.

After a discussion it was felt that PSC might like a presence at the Newark Hamfest in 2012, but this would be discussed nearer the time.

PSC was well represented at the RSGB Convention, with talks by Steve G0KYA (interpreting ionosonde data and propagation to T32C), Carl K9LA (greyline propagation), and Marcus G0IJZ (5MHz beacon measurements).

There were also talks on CMEs by Dr Colin Forsyth from UCL Mullard Space Science Laboratory, and on the "Effects of the Mid Latitude Trough on 80m" by Professor Mike Warrington, G4EMW.

Sam G4DDK and John G4BAO were also at the event as part of their work with the UK Microwave Group.

5.2 5MHz forecasting

Marcus had asked if monthly predictions for 5MHz NVIS working could be included on the PSC's web pages, but as neither he nor Gwyn have the resources to do this the idea has not been adopted.

Gwyn has designed a program that will predict Median Signal and Noise values for a path on 5MHz for any two stations in the UK. More details will appear in a future edition of RadCom.

Re. Marcus G0IJZ's talk at convention on 5MHz and predictions, Gwyn G4FKH said that he felt that the terms MUF/FOT/HPF were misleading when talking about NVIS and that the graphs that Marcus has presented should have referred to critical frequencies. A long discussion followed, but no consensus could be found on the best way forward to present such data. **(Note: in the days following the meeting Gwyn reports that the misunderstanding was cleared up and the intended meaning of the graph became clear.)**

5.3 Board matters (G0CIB)

Leslie G0CIB has now resigned, and as yet we don't know who our next Board representative will be - see earlier note on membership.

5.4 Future plans for PSC

A discussion was held on the location of the meeting venue. A number of possible locations were discussed, but it was decided to stay at LARC as it is well placed for most members.

In terms of the frequency of meetings it was felt that twice a year was optimum. We may wish to move the Autumn meeting date to late September next year if we wish to discuss our presence at Newark/Convention.

John G4BAO suggested that we add some extra links to Hepburn Charts to the PSC website. Also add links to Gabriel - EA6VQ's DX Sherlock site - www.vhfdx.info.

Martin G3USF wondered if we should be doing more with the RSGB and BAA (British Astronomical Association) in terms of meteor scatter research. We need to know what sort of information BAA would be interested in. Alan G3NYK will talk with someone from the BAA meteor section to discuss what we could contribute. **Action: Alan G3NYK**

A discussion was also held about RSGB's future web portal plans that would link to other sites of interest rather than material hosted on the RSGB web site.

6. Projects

6.1 Six and Ten Report (G3USF)

Martin G3USF continues to produce the six and ten report. What has caught his interest is 6m TEP. Not much has been written about TEP at a professional level. If you Google TEP you mostly find material from amateurs. Questions over what ranges you can use TEP are not well answered. Patterns across different months of the year are fairly well known, but not path distances.

Martin suggests that there is now more activity on 50MHz and data is accumulating that would allow more work to be done on TEP paths.

Paths that cross the geomagnetic equator at roughly equally distances around the world are showing good TEP openings. This is because there are now far more amateurs in parts of the world where none existed before.

The information gap we had before is now being filled and we have a better understanding of possible TEP paths.

It also looks like 6m F2 propagation has also returned to some paths in March/April.

Martin also played a tape recording of a TEP CW contact from the late 1970s between Cyprus and South Africa, which sounded very auroral. Martin also talked about a paper from Carl K9LA about TEP in the Dutch Antilles. The committee suggested that the 70s tape recording could be digitised and run through SpectrumLab to take a closer look at the signal.

6.2 LF Propagation (G3NYK)

Alan G3NYK said he is still updating the LF propagation pages as the rapidly-changing solar conditions are affecting propagation. He said that his theories still hold for accurately predicting days of poor LF propagation from the Dst (Disturbance Storm Time) figures. Alan distributed a paper he had written entitled "LF Propagation response to recent geomagnetic events".

This was based on work by Scott Tilley in British Columbia that showed the effects of a Kp=7 disturbance on LF propagation.

See <http://www3.telus.net/sthed/argo/>

6.3 GB2RS (Propagation bulletins, G3USF)

Martin reported that comments have been made in earlier discussions about what might be said about non-HF propagation. If there are any potential/active aurora or meteor events they are now being included in the report. VHF/UHF are brought in whenever possible, although tropo events can collapse between the report being prepared and being broadcast.

Martin commented that we still can't predict a CME or ionospheric storm a few days in advance with any accuracy.

Martin also said there are now more direct subscribers for the update.

7 Reports

7.1 Chairman's report (G3USF)

Nothing else to report.

7.2 John (G4BAO)

John has not had time for much radio recently, but has plans to do some more meteor scatter work in the near future.

7.3 Barry (G8AGN)

Barry sent in a report via email (pasted below):

Since the last PSC meeting, I've continued with trying to expand our knowledge of amateur visible red lightwave comms and propagation.

With Gordon, G0EWN, I've run a series of tests during daylight hours (around lunchtime when the Sun is at its highest) to demonstrate that visible light can be used for AR contacts. Best DX so far is 42km but I'm confident that more is possible. This was done partly to show that it could be, but also because not everyone wants to go onto hills at night to make conventional LOS lightwave contacts.

Furthermore, as the art matures, it's inevitable that people will want to work NLOS paths, home to home. Hence Gordon and I aim over the winter months to explore the potential of night-time optical cloudbounce using, first WSJT, and hopefully then speech. This brings up all sorts of propagation problems, such as the effects of scatter, scintillation etc on WSJT and which is the best digital modulation to use.

7.4 Ron G3SVW

Ron gave a talk on propagation at Berwick on Tweed and a series at South Manchester ARC.

7.5 Sam G4DDK

Sam talked about his work on EME and looking at the solar flux at 2.3GHz (13cms). It was interesting to compare his noise figures with the 10.7cm SFI figures. Sam is also programme manager for next year's EME conference and would be interested in finding a professional to talk about solar activity/CMEs. The committee suggested Dr Colin Forsyth at SSL who had talked at the RSGB Convention.

7.6 Steve G0KYA

Steve's monthly podcast is now being rebroadcast on the UK's "ICQ" podcast as "This week in amateur radio" in the US is not currently operational. He is also now producing a monthly set of propagation charts using HamCap, which get reported and promoted (along with the podcast) on the Southgate ARC news site and feed. He also prepared a feature for RadCom and a talk at convention on propagation to the T32C Dxpediton.

8. Any other business

It was noted that power limits have been raised to 1.5kW in Ireland. Also, 11m SSB will be legalised in the UK next year as part of an EC ruling. This could be seen as a threat or an opportunity, but could bring more new amateurs into the hobby and/or provide useful 10m equipment/antennas.

9. Closure

The next meeting was provisionally booked for Saturday 21 April 2012. The meeting closed at 1625hrs (G3USF had to leave earlier at 1605hrs).

Steve Nichols G0KYA, PSC Secretary