



Minutes of the Propagation Studies Committee

Interim meeting by video conference

17 October 2020

Attendees:

Steve Nichols	G0KYA	Chairman
Chris Deacon	G4IFX	Secretary
Alan Melia	G3NYK	
Dr Peter Duffett-Smith	G3XJE	
Dr John Worsnop	G4BAO	
Prof Barry Chambers	G8AGN	

1. Apologies for absence

Apologies had been received from Ron Smith, G3SVW and John Rogers, MOJAV.

2. Matters arising from the minutes of the meeting held on 16 May 2020

These minutes had previously been approved via email and posted on the RSGB website. Matters arising are dealt with under other agenda items.

3. PSC membership

Committee membership and roles were agreed to be satisfactory at the moment.

4. Topics for discussion

4.1. RSGB website update

The 28 MHz beacon list is now about as complete and accurate as it can be, although it could probably benefit from pruning out-of-date information. It was agreed to make the next significant update in May 2021.

Action: G0KYA/G3NYK

The HF propagation video, available on the RSGB YouTube channel and also linked from the website, has now had 3669 views – a doubling since May. The VHF video has now had 1642 views. Both figures are very encouraging and show that the videos are meeting a genuine need among the wider amateur population.



As PSC webmaster, Alan G3NYK is still looking for more contributions to put on the 'PSC members activities' page on the RSGB website.

Action: All

An initial set of 'signposting' links to propagation-related services has now been put on the website. More will be added later.

Action: G3NYK

4.2. The Les Barclay Award

The wording for the trophy is to be agreed with Les' widow.

Action: G0KYA

The award process is for PSC to agree a nomination to be put forward to the RSGB Board. Following consideration by the committee of a number of worthy candidates, a nomination was agreed unanimously for the 2021 'Les Barclay' and it will be forwarded to the Board in due course.

Action: G0KYA

4.3. PSC budget for 2021

The budget submission has now been made to the RSGB Board. Key items include travel expenses for two physical meetings in Leicester, support for pretest, attendance at the Spectrum Forum, and the establishment of a UK pilot of the HamSCI Personal Space Weather Station. A potential site for the pilot PSWS might be Bletchley Park.

5. Projects and potential projects

5.1. RadCom HF predictions

The 'extended dynamic range' format for the RadCom HF predictions has now been developed as proposed by Peter, G3XJE to accommodate the much greater sensitivity available from modes like FT8 and WSPR. Signal strengths go from S9 down to 'f'. The new format was introduced in the September RadCom, alongside an explanation of how to use the table. No feedback has been received so far.

5.2. Other projects for the next 12 months

Peter, G3XJE suggested Long Delay Echoes as a potential topic for a new project. Existing beacon monitoring software could potentially be adapted to look for LDEs on the signals from International Beacon Project beacons.

Chris, G4IFX supported this proposal and showed an example of a possible LDE that he had recorded on 5 MHz earlier that week using FT8. Several times, over a period of about five minutes on the morning of 15 October, duplicate signals were received from a station in the Aleutian Islands, western Alaska. The second signal was stronger and it appeared to be consistently delayed by about 0.6 seconds vs the main signal. This observation



suggests the possibility of using FT8 records to search more widely for LDEs, although it would not be a suitable technique for detecting delays longer than about 2.5 seconds.

It was also noted that, as well as phone and CW reports, LDEs had occasionally been reported in the past using other machine modes, including HELL and Pactor.

It was agreed that LDEs would be a good topic for a project but it would be necessary to eliminate equipment-based causes for the effects observed, such as software-related multiple decodes of an FT8 signal.

Action: G3XJE/G4IFX

Steve, G0KYA reported that the 10m Extended Tropo project had just been launched with a request for observations in RadCom. Some initial reports had been received.

6. Chairman's report (G0KYA)

Steve reported that he had recently presented on HF propagation to the GQRP Convention, and also on antenna modelling using MMANA-GAL, at the RSGB Online Convention.

Steve also reported that, unfortunately, there has been no further progress on the relocation of the GB3RAL beacon cluster.

Action: G0KYA to liaise further with Mike Willis.

Action: G4IFX to contact Mike Willis again, representing UKSMG, to see if any further progress is possible and to see if an offer of help might be useful.

7. PSC member activity

7.1. Peter, G3XJE has written three articles for RadCom this year and they have been well received. Peter is also now the Editor of RadCom Plus and he made a plea for more propagation-related content for the next issue, due early 2021. Two useful suggestions were made, and Peter will now approach potential authors.

7.2. John, G4BAO has been working with Barry, G8AGN to get ready for 122 GHz experiments and also is building for EME on 24 GHz. He will be attempting to measure Sun noise as a test of system capability.

7.3. Barry, G8AGN continues to work on his 122 GHz development and he showed the group his prototype equipment – a very clean job! It produces only 100 microwatts output, so he has had limited practical experience so far. He has been using his Arduino-based prediction tool 'WeatherBox' (see the last PSC minutes) to test propagation possibilities, and the next step is to calibrate it using real measurements on a trial path.

7.4. Chris, G4IFX had delivered an introductory 50 MHz presentation at the RSGB Online Convention, with a significant amount of propagation-related content aimed at giving a basic understanding to beginners. Chris also reported that the first journal article about his research into 50 MHz Es polarisation has now been accepted for publication, with minor corrections, in IEEE Transactions on Antennas and Propagation.



7.5. Ron, G3SVW was unable to access Microsoft Teams for the meeting but had provided a report by email. No direct contact has been possible with other operators or clubs since March for obvious reasons, but he is still promoting propagation ideas, working through the increased club nets that are active through lockdown. He is also still adding solar data to a database he is experimenting with. Finally, with a colleague at his club he is starting to explore Long Delay Echoes. Ron asks that if any PSC members have experience of LDEs or can refer him to any useful reports, he will be grateful. {Purely by coincidence, the committee had been discussing LDEs earlier in the meeting, so there is definitely interest in pursuing this topic}.

8. Any other business

None.

9. Date of next meeting

Provisionally Saturday 15 May 2021.

**Chris Deacon G4IFX
PSC Secretary**