



Minutes of the Propagation Studies Committee

9th September 2017

Attendees:

Steve Nichols	G0KYA	Chairman
Dr John Worsnop	G4BAO	Vice Chairman
Chris Deacon	G4IFX	Secretary
Alan Melia	G3NYK	
Ron Smith	G3SVW	
Gwyn Williams	G4FKH	
Tim Fern	G4LOH	
Prof Barry Chambers	G8AGN	

1. Apologies for absence

Apologies had been received from corresponding members G3YLA, G4CJC and G4DDK and from Board representative G0TLK.

2. Minutes of meeting held on 13th May 2017

These minutes had previously been approved via email and posted on the RSGB website.

3. Matters arising from the minutes of the previous meeting

Dealt with under other agenda items.

4. PSC membership

4.1. Membership

No further changes in membership are felt to be necessary at this time.

4.2. Chairman

Although the rules are not totally clear, RSGB has stated that the chairs of committees have a fixed term and should stand down and/or submit themselves for re-election on a regular basis.

Therefore, for the avoidance of doubt, Steve, G0KYA was proposed as Chair by Chris G4IFX, seconded by Gwyn G4FKH, and re-elected unanimously.



5. Topics for discussion

5.1. Newark Hamfest

No-one is available to put on a stand at Newark this year.

In the discussion, Ron G3SVW raised that he would like to feature a proper PSC stand at local amateur radio events in the North West. Steve agreed to provide him with the current display material.

5.2. RSGB Convention

There will be no PSC stand at the Convention this year but talks are being given by a number of PSC members and PSC associates:

Tim, G4LOH	Combined mode propagation on 144MHz
Jim, G3YLA and Chris, G4IFX	Sporadic-E propagation update
Carl, K9LA	Review of antipodal propagation
Steve, G0KYA	HF propagation at sunspot minimum
Jim, G3YLA	Ionosonde data/HF propagation

5.3. Space Weather Knowledge Exchange Workshop 13th October

40 people are signed up to attend this event and sessions will include presentations from PSC members G0KYA, K9LA, G0IJZ, G3YLA and G4IFX as well as many of the professional attendees. G3NYK suggested that VLF topics should be added to G0KYA's introductory talk at the workshop.

There was some discussion about whether some beneficial publicity for propagation studies could be obtained by inviting the RadCom Technical Editor and the Editor of Practical Wireless.

Action: G0KYA

5.4. 5MHz beacons

The Orkney beacon is now back on the air.

5.5. RAL beacons

The future of the GB3RAL beacons is still unclear.

5.6. Propagation Presentation Videos

It's gone relatively quiet in terms of requests to show the videos and Q&A sessions. Four Skype Q&A sessions have been held for the VHF presentation. Steve will contact RadCom

to remind the audience about the videos, as well as about Predtest and Jim Bacon's critical frequency website.

Action: G0KYA

It was agreed that there is no need add any additional videos at the moment but Steve is planning to add a couple of slides about coronal holes to the HF video.

Action: G0KYA

6. Projects and potential projects

6.1. ITURHFProp and Predtest (G4FKH)

Gwyn reported that he has now received an answer to his request for support about the antenna file format used by ITURHFPROP (so-called 'T13 files') but has not yet been able to evaluate and feed back to the author. The work should be finished in about a month's time.

Predtest now has five or six modules, the latest one of which is selected area coverage for non-UK users, which because of the amount of computation required takes about 50 seconds to run for one frequency and one hourly window. UK users can also use it if they wish.

Despite the fact that there has been very little publicity about the system, usage has been considerable already. For example, in the two days prior to the meeting, 18 people in 9 countries have used the system.

Action: G0KYA publicity for Predtest as per section 5.6 above

6.2. Combined-mode VHF propagation (G4LOH)

Tim's work so far will be presented at the RSGB Convention.

Tim also raised an outstanding question about tropo plus meteor scatter: He is looking for more 'real world' knowledge of how signals couple into ducts from both above and below. Reports show that sometimes the duct looks really strong but there is no propagation, but there are other times when the Hepburn forecast is very 'average' but strong signals are observed. To understand this better, more information on the refractive index variation with height would be required, which is difficult where the duct is a long way from land.

Additional ideas for sources of insight were suggested during the discussion, which Tim will follow up. Vertical profiling from aircraft is available, for instance.

Tim strongly suspects that 'ground gain', involving a reflection into the duct from the sea, is a factor. This could lead to either enhancement or cancelling of the signal.

6.3. Noise measurement projects (G4FKH)

Gwyn still intends to wind up the project from October because funding is ending. He is beginning to form conclusions and will be writing an article for RadCom when the project is closed.

John G4BAO has contacted Prof Alwyn Seeds, who will be giving a talk at the RSGB Convention about VHF noise measurement.

6.4. Poldhu ARC 20m WSPR beacon (G0KYA)

As described in the last minutes Poldhu ARC now has much better, faster internet access and they are keen to establish a 20m WSPR beacon using the GB3SSS call.

Discussions have more recently taken place about a proposal from Poldhu to vary the mode/frequency mix to include 10m and CW, involving the IARU R1 beacon coordinator G3USF. The rules have been 'bent' enough to accommodate the existing scope but it may not be possible to bend further. A 'project aims' document is awaited from Poldhu.

6.5. Goonhilly HF SDR (G0KYA)

The site originally considered by Goonhilly for the HF SDR turned out to be quite electrically noisy. They also expect the development to be tied together with other projects. The focus of the local team is towards an amateur satellite-focused web SDR, with HF SDR a second priority. Help with funding has been offered on behalf of PSC.

There is also a proposal underway to establish a heritage trust to have one of the oldest dishes at Goonhilly, GHY1 ('Arthur'), the original dish which tracked 'Telstar', established as a listed building which would be used for STEM and other purposes and as part of New Merlin educational VLBI network. There may be opportunities for the RSGB to be involved in the trust or, specifically, with the visitor centre.

It was also noted that EME experiments have recently been undertaken at Goonhilly, with considerable success.

6.6. IARU 50MHz Synchronised Beacon Programme (G4IFX)

The first beacon cluster is now partially populated, with GB3MCB (two periods), EI0SIX and OZ4BHM now operational on the 50.005 shared frequency and with another beacon from Italy on 50.006. GB3MCB is frequency hopping during the 'off' periods to its standard IARU frequency of 50.443.

During the aurora of 8th September 2017, EI7BMB reported that both GB3MCB and EI0SIX were decoded via aurora, using the PI-RX software. It appears that this mode/software combination has considerable potential for propagation research in the future.

6.7. Other projects for the next 12 months

No new projects were put forward.



7. Reports in addition to items already covered

7.1. Chairman's report (G0KYA)

Steve reported that he has been tasked with making sure that everything PSC does fits in with the RSGB strategy. He was due to be attending the RSGB Leadership Team meeting the following weekend for a 'strategy' workshop and will report back after that.

The RSGB Board are requiring all committees to appoint a communications officer to ensure that member communications are handled properly. After some discussion this topic was deferred until we have a clear remit for the role.

7.2. John, G4BAO reported having two EME contacts using 12W on 3cm.

7.3. Chris, G4IFX has been continuing his 50MHz polarisation measurements via Es using digital modes for Es data collection over the summer and also made measurements using meteor scatter during the Orionids 2016. He will be reporting the results at the Convention and at the Space Weather Knowledge Exchange Workshop.

7.4. Barry, G8AGN reported that at night, high power LED red lights can be seen 100km away so communication can easily be established, but during daytime detecting nanowaves in bright sunlight is a very different matter. It's much more difficult because of the background level and this makes portable operation problematic during the day.

Barry has also been looking at signals from the Graves radar, which nowadays seem to consist of much shorter pulses than previously.

7.5. Ron, G3SVW continuing to be active in promoting propagation topics with his local club and other clubs.

7.6. Tony, G4CJC reported (by email) that he continues to monitor the 10m band, finding the increasing use of the FT8 mode by DX stations fascinating and rewarding. Even those who said it's not real radio are realising that it still takes patience and some persistence to work other stations. His experience during the eclipse drew a blank, hearing (on 10m) nothing before during, or after the event.

7.7. Jim, G3YLA reported (by email) that he is carrying out some tests on a new format for the sporadic-E forecast jet stream charts, which should automate the service and make it easier to interpret by users. It will be simplified but quite visual and easily absorbed. Jim is also considering whether to move the charts onto a Weatherquest-hosted server, where the foF2 charts reside, in order to cut down the amount of manual copying and sending files required.

8. Any other business

None

9. Date of next meeting

TBC.



10. Close

The meeting closed at 16.15

Chris Deacon G4IFX
PSC Secretary