



Minutes of the Propagation Studies Committee

Meeting by video conference

29 April 2023

Attendees:

Steve Nichols	G0KYA	Chairman
Dr John Worsnop	G4BAO	Vice Chairman
Chris Deacon	G4IFX	Secretary
Alan Melia	G3NYK	
Dr Peter Duffett-Smith	GM3XJE	
Gwyn Williams	G4FKH	Corresponding Member
Sam Jewell (part time)	G4DDK	Corresponding Member

1. Apologies for absence

Apologies had been received from Barry Chambers G8AGN and Ron Smith G3SVW (Members), and George Jacob G0HSV and Gwyn Griffiths G3ZIL (Corresponding Members).

2. Matters arising from the minutes of the meeting held on 22 October 2022

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

3. PSC membership and roles

It was confirmed that all current full members are happy to continue in their roles.

It was reported that former PSC Chairman Prof. Martin Harrison, G3USF sadly died at the end of March. The current Chairman has written an obituary, which will appear in the next issue of RadCom.

It was noted that Peter DeNeef, AE7PD has submitted a number of features to RadCom recently and that he seems to have a good knowledge of HF propagation. On that basis, it was agreed that he should be invited to join PSC as a corresponding member.

Action: G0KYA

4. Topics for discussion

4.1. RSGB website – PSC pages

Alan, G3NYK is currently doing his annual review of website PSC content for accuracy and has been surprised to see how many busted links there are – for instance, nearly all the links on the aurora page are now dead.

A notice has now been added to the PSC page requesting reports of busted links (404 errors) to go to psc.chairman@rsqb.org.uk

4.2. 28/50 MHz beacon lists

Following a recent review by G0KYA, 33 updates to the 28 MHz beacon list were made and it is now pretty much up to date. This list will continue to be maintained, because it seems clear that 28 MHz implementation into beaconsport is low priority for the development team.

On the other hand, it was agreed that beaconsport does represent the most up to date list of beacons at VHF and above, so it was decided to retire the PSC 50 MHz beacon list and direct users instead to <https://www.beaconsport.uk>.

Action: G0KYA/G3NYK

It was agreed that the continuing PSC 28 MHz list will be marked as initiated by the late Prof. Martin Harrison, G3USF.

Action: G3NYK

4.3. Les Barclay Award

It was noted that the 2023 Les Barclay Award for propagation studies was presented to Pascal Grandjean at the RSGB AGM, for his work developing and operating his website dedicated to tropospheric propagation forecasting, which can be found at <http://tropo.f5len.org/>.

It is intended that a decision on the nomination for the 2024 Les Barclay Award will be made at the next PSC meeting.

Action: All consider suitable candidates for the Les Barclay Award 2024.

4.4. RadCom HF predictions

It was confirmed that the RadCom propagation forecast will continue to be presented in its existing format, but that proppy and VOACAP will be promoted as supplementary alternatives for those who have more specialised needs.

Action: G0KYA

4.5. PSC 'Science Workshops'

The second workshop session was held by video conference on 25 March, with 12 PSC members taking part. Main topics were (a) Peter GM3XJE's sounder system for searching for long delay echoes, (b) the key parameters of EME communication led by John G4BAO, and (c) raytrace modelling using the Pylap front end to PHaRLAP, let by Gwyn G3ZIL. Another topic, PHaRLAP application to sporadic-E to be led by Chris G4IFX, was held over until next time.

It was agreed that the workshops were useful and that they should continue, at roughly two sessions per year.

Action: G4IFX/G3ZIL

5. Projects and potential projects

5.1. Mid-Cornwall Beacon Project

All the beacons appear to be on air now. The 28, 50, 70, 144 and 432 MHz beacons have all been spotted. However, the 28MHz beacon hasn't been spotted on the Reverse Beacon Network since November.

The RSGB Board has agreed to the Legacy Committee's proposal to fund the Mid-Cornwall Beacon and Repeater Group's project to implement a solar power array at a cost of £11,914 (as per a quote from GreenGen).

5.2. BAA Meteor Scatter Beacon

As discussed at the last meeting, the meteor beacon GB3MBA is now on the air on 50.480 MHz. The companion receiver project is well underway. The team has hardware for the first three receivers, but they are awaiting the streaming software, which is under development. The stream will be a kind of .wav format including precision timing, and the team will also provide the means of displaying it - perhaps by using it as input to Spectrum Lab.

PSC will continue to keep in touch with this project and will offer assistance if and when required.

5.3. Other potential projects

As discussed at the last meeting, the former RSGB President asked for a project to look at aircraft scatter at the time of the pandemic lockdowns, to search for evidence of a reduced level of a/s contacts in 144 MHz contests during that period.

Action: G4BAO will continue to look for someone with the skills to do the analysis.

The project to install a 24 GHz web SDR on the east coast, to monitor beacons in ON and PA, is currently on hold pending the availability of a suitable site.

Action: G4BAO

It was noted that Peter GM3XJE's sounder for searching for long delay echoes may become a PSC-sponsored project in the future, depending on results from the prototype.

Action: GM3XJE

6. Chairman's report

(Items not already covered elsewhere in these minutes).

6.1. Defunct beacons

It is believed that the following beacons are now permanently off the air:

GB3IOJ (50MHz)
GB3ORK (5MHz - the last of the 5MHz beacon chain)
GB3NSJ (28MHz)

6.2. Talks

Steve has given a number of talks recently. One was delivered after the RSGB AGM and described the process used in producing the propagation news in GB2RS. Another, entitled "What do the numbers mean?", looks at terms used in HF propagation and has so far been delivered to Telford and District ARS, West of Scotland ARS, and the Ham Radio Network.

6.3. Newark Hamfest

It was noted that there will not be a Newark Hamfest this year.

6.4. RSGB Board liaison

Steve reported that, as far as he is aware, a new Board liaison member has still not been appointed.

7. PSC member activity

7.1. John, G4BAO

John is still promoting his 24GHz project, but still hasn't had a QSO on 24 GHz EME.

7.2. Gwyn, G4FKH

Gwyn has an upcoming article in RadCom about non-reciprocal HF propagation. He is also continuing his project comparing predictions with IBP reception. Initial results continue to suggest that ITURHFPROP is significantly more accurate than other prediction engines. He now has 38,000 reports in his database and is expecting to have 50,000 or so by completion, which is likely to be just after the upcoming sunspot cycle peak.

7.3. Peter, GM3XJE

The use of Peter's LDE sounder continues sporadically, as he gains more experience with using it. Peter continues as Editor of RadCom Plus, and is currently standing in as RadCom Technical Editor.

7.4. Sam, G4DDK

Sam has been doing a lot of work renovating microwave beacons recently. He also noted that Simon, G3LQR sadly died recently. Simon was a notable contributor to the development of the microwave part of the spectrum.

7.5. Chris, G4IFX

Chris is currently writing up his PhD thesis on "VHF Radio Propagation via Sporadic-E", with a target for submission by the end of June. He has also recently contributed a section on sporadic-E to a review article entitled "Heliophysics and Amateur Radio: Citizen



Science Collaborations for Atmospheric, Ionospheric, and Space Physics Research and Operations" which has been submitted to Frontiers in Astronomy and Space Sciences by lead author Nathaniel W2NAF.

7.6. Ron, G3SVW (by email)

Ron's LDE work is currently suspended, although he is still working on a bibliography of LDE material for the website. He is also developing an interest in VLF propagation.

7.7. Gwyn, G3ZIL (by email)

Gwyn gave a talk at the HamSCI Conference in March, entitled "Identifying 14 MHz propagation modes using FST4W SNR and spectral spread" (available, along with other materials, via <http://wsprdaemon.org/presentations.html>). This talk was selected as one of three HamSCI case studies to include in a feature article in the AGU journal 'Space Weather' by the lead author, Nathaniel Frissell. Gwyn is also working with 3D ray tracing in PyLap with help from the University of Scranton) and is in the early stages of investigating two-hop side scatter.

8. Any other business

There was a discussion about the apparent lack of use of the SSB/CW sections of the HF bands, partly because of the growth of digital modes but also presumably because of the general increase in noise levels. Some members believe that this will be storing up problems for the amateur radio movement in the future.

9. Date of next meeting

Provisionally Saturday 21 October 2023.

Chris Deacon G4IFX
PSC Secretary