

RADIO SOCIETY

of Great Britain_

Approved

PROPAGATION STUDIES COMMITTEE

Minutes of a meeting of the Propagation Studies Committee held in Leicester on Saturday 18th October 2014, commencing at 1300hrs local.

1. Members Present

Mr S. Nichols	G0KYA	Chairman
Mr R. Smith	G3SVW	
Mr G. Williams	G4FKH	
Dr J. Worsnop	G4BAO	
Prof. B. Chambers	G8AGN	

Apologies for absence were received from Mr A. Melia G3NYK, Mr Chris Deacon G4IFX, Dr Marcus Walden G0IJZ and Dr John Rogers M0JAV.

2. Minutes of last meeting

These had previously been approved and submitted to the RSGB, plus posted on the PSC Yahoo Group

3. Matters arising from the minutes

3.1 Free e-book on propagation

In the minutes of the last PSC meeting, held on 6th April 2014, G0KYA said that he would enquire as to whether RSGB would let PSC add the recent RadCom propagation features to the free propagation E-book, currently available for download at www.g0kya.blogspot.com

The current thinking is that the RadCom features have a lot of value, especially to RSGB members. RSGB's Mark Allgar felt that there might be room in the future for a new book on propagation, perhaps a collection of "essays" on topics like ducting, Es, greyline etc.

Although there are currently no plans to publish such a book it was felt that to give away information at this stage could be counterproductive. So the existing free e-book will remain as it is with no additions, at least for the time being.

3.2 Propagation forum

Steve G0KYA had also said that he would investigate adding a new forum subsection to the RSGB website entitled "Radio Propagation Questions". He had held back until the meeting so that the question of whether there should be sub sections to cover LF, HF, VHF, microwaves etc could be addressed.

The committee decided that at this stage a single forum should suffice to gauge interest. If the take-up warranted it further sub categories could be added at a later date. Likewise, if there was no interest in the idea it could be quietly deleted if need be.

We will give it a six-month trial in the first instance. G0KYA to be moderator. The questions to be answered by the relevant PSC member as appropriate.

Action: G0KYA

4. PSC Membership

There are currently no existing corresponding members who wish to transition to full membership.

Potential new corresponding members could come from the British Astronomical Association Radio Astronomy Group (BAA-RAG), plus a new radio astronomy-related group in Cambridgeshire (East Anglian Amateur Radio Observatory – EAARO) who are going to look at 6m meteor scatter among other topics

Action: G4BAO to look into it in more detail and approach the groups if appropriate.

High altitude balloon enthusiasts might also be good hunting ground for new corresponding members, especially as they can take temperature/humidity measurements at altitude which might be useful for VHF.

There was also a discussion about whether PSC needs a new full member with special interests at VHF. John Regnault G4SWX, the VHF Manager, had suggested that PSC might want to look at long-distance contacts on 2m resulting from Es/meteor scatter coupling and other modes.

The group decided that there was no one in the current membership with the requisite equipment or skills to undertake such research.

Therefore an advertisement may be drafted for RadCom asking if there is anyone interested in investigating extreme long-distance mixed mode propagation,

It was agreed that John Regnault G4SWX needs to be involved in helping to draft the advertisement.

Action: G4BAO

5. Topics for discussion

5.1 GB2RS Propagation report

Steve G0KYA outlined how Neil G0CAS and Martin G3USF have both said they wish to step down from producing the weekly propagation report for GB2RS. The group said that they wished to convey their thanks for the outstanding contribution both have made over the last 20 years.

Steve then went on to say that RSGB has said that it is happy for the report to continue and at roughly the same length (350-400 words), but it wants it to change to focus more on propagation and less on the solar factual data.

Much discussion then followed about how it could also now incorporate VHF propagation predictions, Es, Hepburn data, and even moon bounce propagation forecasts.

Marcus G0IJZ had also suggested that a weekly/monthly indication of the best frequencies for NVIS contacts around the UK might be useful.

Steve G0KYA said that his main concern was the time commitment to producing this each week – it has to be emailed to Elaine Richards at RSGB so that it is available for her first thing Friday morning. He added that ideally two or three people should be involved, perhaps on a rotating basis to cover holidays and business absences.

While members seemed keen to support the project no one stepped forward to actively produce the report on a weekly basis.

John G4BAO said he could contribute the VHF segment. Jim G3YLA has also said previously that he could contribute tropo and Es forecasts.

The split would likely be 150-200 words HF/ 150-200 words VHF and above.

G0KYA could contribute the HF segment and agreed to act as GB2RS coordinator, at least for six months and we would review it at the next committee meeting. He did express concern at the time commitment, especially if he was working away.

One idea was to have a Google document that everyone could contribute to, prior to it being sent to RSGB on Thursday evening. The group agreed to aim to start the new report by 1 November if possible.

Action: G0KYA

5.2 Noise Measurement Projects (G4FKH)

Gwyn G4FKH reported that earlier noise measurement project that used manually-submitted spreadsheets is no longer active. The automated noise measurement project using Cross Country Wireless Sentinel SDR receivers is now under way. Around 11-13 people are sending in data every day. Only conclusion is that there is currently no change in overall noise levels on 3.5, 5, 10 and 14MHz over the project's first 12-month period.

One reporter is now seeing -60dBm noise levels. The average is more like -110dBm. The project has two more years to run.

There is no further news on the RSGB-sponsored Leicester University Noise Measurement project at this time.

5.3 Transatlantic 2m Beacons GB3WGI/ GB3SSS

John G4BAO reported that GB3WGI on 144.487 MHz in Northern Ireland is now up to 1kW ERP. There have been no reports of reception from the other side of the Atlantic. The beacon currently runs CW and JT65B. Best DX has been Portugal (CT) off the side of the beam.

G4BAO said that he has been in discussion with G4JNT to look at the possibility of changing the mode during different seasons. FSK441 might be a better mode for the beacon, as evidenced by John Regnault G4SWX's recent success with the 2m Trans Atlantic Brendan Trophy attempt.

Steve G0KYA reported that GB3SSS at Poldhu ARC had been active during the trans-Atlantic attempt, but it was believed to be off the air again. However, he heard on Monday 20th October that in fact it WAS still active, but the Poldhu group were pondering what to do next.

There seems little interest at Poldhu to continue with GB3SSS due to a) the GB3SSS hardware being quite old b) pressure from the National Trust to reduce the visual impact of antennas and cost of operating the centre and c) the problem of having a 2m TX operating 24 hours a day with the attendant de-sensing.

Steve said that he had spoken to Simon G4ELI at the RSGB Convention. Simon now lives in Cornwall and is keen to get involved in a project, perhaps using his SDR skills. Possible ideas including an SDR RBN node at Poldhu to listen for CW/JT65/FSK441 signals.

John G4SWX had also been involved in the conversation and thought that Joe Taylor was working on a MAP441 program that could act as a skimmer for the reception of FSK441 signals on 2m using SDR.

Simon G4ELI also said he had good contacts at Goonhilly and that might be a good, quiet site for an SDR to be set up.

Steve G0KYA said that in view of the distances involved it made more sense for a local amateur to be involved in any future beacon/SDR reception project in Cornwall. He said he would contact Poldhu ARC's Cliff G3UYN and inform him of Simon G4ELI's interest.

Perhaps they can work something out together.

Action : G0KYA

5.4 Beacons

John G4BAO reported the following news on the new 70cm beacons:

London – awaiting site clearance

Leicester – waiting for beacon keeper to finish the TX

Finningley – are using their own TX

Angus – are recrystalling their existing beacon for now

Northern Ireland - some technical issues, but should be up and running shortly

Cornwall – there are manpower issues and no progress at present.

About half of the above are using G4JNT's hardware.

50MHz – IARU synchronised beacons. No report received

5.5 RadCom propagation forecasts

G4FKH said that he has now been using ITURHFProp to produce the RadCom propagation predictions. These are giving more accurate forecasts, especially on the upper bands such as 10m. He had been using REC533 before.

Gwyn has now written a program to output the RadCom charts each month. While ITURHFProp was giving better results on the upper HF bands, it wasn't so good on 3.5/7MHz).

But by tweaking some parameters Gwyn says that the results on the lower HF bands are now more accurate.

6. Member activities/club and other talks

The following talks have been delivered/will be delivered by PSC members.

Ron G3SVW has a talk coming up at Bolton ARC and another potential at Halifax ARC. He also talks about propagation on a club net using 7MHz on a weekly basis (Sunday mornings – 7079kHz at 10.30hrs local).

Barry G8AGN has given talks on lightwave communications at Denby Dale, Worksop, and South Manchester ARCs. He has also given another talk on 472 kHz MF comms to the Sheffield club. Another talk on lightwaves is in the pipeline for Shefford.

He said that little work had been done on nanowaves over the summer, but he plans to look at using WSPR and explore beyond line of site (BLOS) communications at night.

Barry said he also has a professional interest in passive radar.

There was also a discussion about the DL0SHF 50W 10GHz EME beacon, which can be received on a 1m dish or smaller.

Steve G0KYA gave a talk on understanding the GB2RS propagation news to Norfolk Amateur Radio Club. It was also offered for the RSGB Convention, but his email was mislaid and the program was full before it was noticed. The plan was to turn this into a YouTube movie presentation, but the forthcoming change to the GB2RS propagation news format has made this inappropriate/out of date.

John G4BAO said he has two talks lined up for spring, one with Norfolk Amateur Radio Club (microwaves) and another for Chelmsford (VHF prop).

He continues to promote “exotic” propagation modes at microwave in his RadCom column, including lightning scatter. He has also been doing some 10GHz aircraft scatter with Alan GM0USI/P, completing over a 499km path.

Marcus G0IJZ has recently had a two-part feature on VHF ducting published in RadCom.

7. Reports

7.1 Chairman’s report (G0KYA)

Steve G0KYA reported that there will soon be two new additional “RadComs”. “RadCom Basics” will be an electric newsletter aimed at new hams. This is effectively the newcomer's e-newsletter, which is being rebranded.

There will also be a “Radcom Extra”, which will be aimed at more technically-advanced hams, along the lines of QEX. This is believed to be some form of electronic publication and RSGB is currently looking for an editor and contributors.

Steve has also been asked to give a presentation to the RSGB board on what PSC does on 17/1/15. He said that he would be asking members shortly to outline what they have been working on so that a PowerPoint presentation can be put together.

He also added that he had been asked that PSC refrains from using its PSC Twitter account. This is because Heather Parsons, the RSGB's new communication coordinator, is aiming to put all RSGB Twitter communications under one ID. Instructions should follow in due course.

He also reminded members that RSGB is keen to see PSC “add value” to its members. That is, where possible, we offer services that are seen to benefit RSGB members, such as help, research and club presentations.

7.2 6m Es study

Steve G0KYA said that he collated 6m EU RBN data daily from May 1 – September 30 2014.

This is in monthly Excel files containing every single 6m RBN report received in Europe, although reception reports from within the same entity were automatically filtered out.

This gives a database of contacts that can easily be interrogated using Excel's “Filter” command.

He has examined paths roughly North, South, East and West to DK8NE from the OY6BEC, CS5BLA, SV1SIX and ERSIX beacons, looking for any evidence of periodicity as suggested by Geoff G3NAQ. Geoff has yet to comment on the graphs that have been produced and published on the PSC Yahoo Group forum, but no periodicity was seen.

He also plotted known meteor showers to see if there was any correlation and although there was some correlation there were some notable peaks with no known showers – the 3rd July being a major Es peak on all paths.

The data do show some other phenomena, such as the appearance of SSSP paths to DL from Japan in July.

He has also started to look at paths to OZ1DJJ, which was another reliable 6m RBN node.

This will be written up for RadCom at some stage, with Jim G3YLA offering to add some content on his high-level wind findings over the period and their effects on Es.

7.3 RSGB Board Issues – nothing to report.

8. Any other business

Nothing to report

9. Closure

The next meeting was provisionally booked for Saturday 18th April 2015. The meeting closed at 1610hrs.

Steve Nichols G0KYA, PSC Chairman (and Secretary for the meeting)