



Propagation Studies Committee Report

October 2017

The following provides an update on recent PSC activities and projects:

- A new experimental function has been added to www.Predtest.uk (G4FKH) that enables you to specify your location when generating HF prediction maps. Until this was added it was always centred on the UK.
- Added functionality has also been included on the critical frequency plots at <http://www.convectiveweather.co.uk/ionosphere> . These include monthly averages. The URL for this site will probably change in the next month or so to propquest.co.uk and make it more memorable.
- The planned trials of an experimental HF SDR at Goonhilly have been delayed as the team behind it wanted to concentrate on moon bounce (EME) on the latest visit. There are also some issues with local noise and filter / aerial / location on site and the team want to move / re-engineer it before they let anyone else use it. The bigger plan is the building of a plinth and a VHF/UHF satellite tracking array. A number of SDRs would be put behind the array and the whole opened up as "The Goonhilly Tracking SDR", giving them great publicity. As part of this proposal there could be an HF SDR equipment and aerials. Noel G8GTZ is the PSC contact on this project.
- PSC did not have a stand at the Newark Hamfest due to availability issues.
- Tim Fern G4LOH is progressing his research into combined-mode VHF propagation. Tim's work so far was presented at the RSGB Convention. He is looking for more 'real world' knowledge of tropo plus meteor scatter and how signals couple into ducts from both above and below.
- We had a number of people giving talks at the 2017 RSGB Convention, namely:
 - 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
- Gwyn G4FKH still intends to wind up his noise measurement 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.
- Poldhu ARC now has much better, faster internet access and they are keen to establish a 20m WSPR beacon using the GB3SSS call. Initial agreement in principle has been granted.



- 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.

- The Friday before the RSGB Convention (Oct-13th) had the inaugural "Space Weather Knowledge Exchange Workshop" organised by Professor Cathryn Mitchell. This is being funded by NERC. PSC members were joined with space weather professionals and academics.
- Beacons:–
 - 5 MHz beacons: the GB3ORK Orkney beacon is now back on the air.
 - RAL 10m & VHF beacons: the future of the GB3RAL beacons is still unclear.
- Nothing to report on GB2RS, the propagation element of which continues to be produced to the new format.
- Videos – don't forget that PSC has two video presentations on HF and VHF propagation for clubs. For more details contact steve@infotechcomms.co.uk
- Two features on G4FKH's Predtest and G3YLA's Critical Frequency tool appeared in RadCom a few months ago.
- The last PSC meeting was on Saturday 9th September 2017 and the next is currently planned for some time in April 2018.

Steve Nichols G0KYA
PSC Chairman

Note: PSC would like to remind clubs that it still has its "Understanding HF Propagation" presentation movie available.