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Hello all,

With the launch of RBSP due this month, it is overdue for the SuperDARN community to decide exactly how to support the mission. Whilst this has been discussed at the last 2 SuperDARN workshops, we have yet to formally agree a plan of action.

Suggestions discussed so far run something like what is set out below:

A storm alert mode will be supported. The implementation of this is being worked on by Jef Spaleta, who has some test code running on the linux-based ROS. Julian Thornhill here is going to work on getting a QNX 4 equivalent running later this month.

The trigger algorithm is currently envisaged as being triggered on a Dst based algorithm which we're working on with Jef, and to run as common time on all radars. The suggestion is an interleaved full scan and mini scan, giving 2 min full scan data for convection, as was done in the old common time. Interleaved will be a 3 beam mini scan for higher time resolution and ULF wave m number determination, which the RBSP folks have flagged as being what they really want to know about. Stereo radars can run both simultaneously.

So a mono beam pattern would go as follows for a forward scanning radar, where n is the meridional beam:

0,n-1,1, n,2, n+3,3,n-1,4,n,5,n+3,6,n-1,7,n,8,n+3,9, ...

The trigger would start on the hour when Dst was flagged as having reached -30 nT, and run for an initial 6-hour period, reset to 6 hours every following hour when Dst was confirmed to remain below -20 nT.

We also suggest that the spacecraft working group establish time periods when the spacecraft are at apogee in each radar's field of view. These should be included in the proposed schedule, with a recommendation that the PIs cover the periods with a suitable mode run as discretionary time, with other radars running common time. The mode will depend on the orbit geometry, but I'd imagine a mode like the alert mode, but with smaller range gates might be optimum.

In both cases PIs would have the right to override the RBSP mode in the event that they had something else they wanted to do with a higher priority, something like an eiscat campaign.

Personally, I'm open to a more restrictive RBSP-centric approach, which would maximise the number of radar-hours of RBSP support mode which will actually get run. But I realise that such a mode will not be everyone's cup of tea, and the proposal above is designed to cause minimum offence to such people, and therefore perhaps is the most likely to be accepted. It does run the risk of the modes not being as widely run on the network as they might, of course...

I'll be interested to hear what people think. Whatever the consensus decision might be, it needs to be decided on swiftly.

Cheers,

Tim-----
Prof Tim Yeoman