

XPOL4 Scan Sequence

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Submitted by mhe on Tue, 2013-05-14 09:56

Date:

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Instrument List:

- [Green](#)

Discussion:

1. XPOL2 scan settings (04/30/2013-05/01/2013):

PRIs: 950us, 1200 us (staggered, dual pulse-pair).

Range resolution: 75 m (will collect data at 30 m range resolution later in the campaign)

Range oversampling: No (but plan to collect oversampled data at 30 m and 15 m later in the campaign)

Clutter filter: On

Rmax ~ 40 km

Total number of samples averaged: 168 (at scan rate of 5 deg/s, this corresponds to an azimuthal resolution of about a degree).

2. Scan sequence for XPOL2:

-Low elevation (= 3 deg) PPI at 8 deg/s scan rate. Total: 1 scan. Estimated time ~45 s

-Sector PPI stack in the region (60 to 200 deg azimuth) at 5 deg/s scan rate, increasing elevation by 1 deg step up to 8 deg elevation. This sector corresponds to the mutually overlapping area with XPOL4. Based on our experience with the radar data/settings, we will increase the sector to about 180 deg later so that it covers non-overlapping area of the watershed as well. Total: 6 sector scans. Estimated time ~3 mins

-3 RHIs in the overlapping area corresponding to azimuths of soil-moisture stations. Elevation sector for RHI is 0-100 deg (so, it crosses the vertical). Scan rate: 5 deg/s. Estimated time: ~ 1 min

-V-point cal scan. Scan rate: 12 deg/s. Total: 1 scan. Estimated time: 0.5 min

Estimated time for one scan sequence (includes repositioning) ~ 7 mins.

3. We are adopting identical scan sequence for XPOL4 starting tonight: i.e. a low elevation (3 deg) PPI, sector stack (165-360 deg azimuth) in the mutually overlapping area with XPOL2, 3 RHIs (170, 225, 265 deg azimuths) in the direction of soil-moisture probes and a V-point scan.
