Commissioning Quality Control for the ASKAP Polarisation Survey

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Question

How do we verify the output of the POSSUM pipeline during ASKAP Science Commissioning?

Answer

1) Verify the *input* to the POSSUM pipeline a.k.a. the EMU pipeline
- For this reason, we have a joint EMU-POSSUM working group for data quality, (Chaired by Lisa Harvey-Smith)
- The crucial aspect for the POSSUM Polarisation Catalogue (PPC) will be the reliability of EMU source-finding
- Sources missed by the EMU source finder will not be in the PPC

Questions:
- **Are we happy to rely on EMU source finder 100%?**
- Or, will we run this polarisation source-finding in real time?
- If so, when will we verify that this polzn source-finder works?

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Steps to Data Verification

2) Verify the *output* of the POSSUM pipeline
   - See POSSUM report #23, final data verification plan
   - Stil, Sun, Gaensler, S Brown, Harvey-Smith & Purcell have responsibility for defining various quality control measures (see Report #23)

Questions:

- We have not yet dealt with value added products (PVACat), only PPC

- How will PVACat feed into data verification process?

  are there any as-yet unidentified verification steps required that affect only the PVACat data products?   **Do we need to do parts of PVACat early?**

- For science commissioning are we using the BETA test fields or something else?

- If the BETA test fields, to what extent do we 'trust' the results from ATCA?

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Steps to Data Verification

3) Tests for systematic effects

- Battye et al. (2008) detected systematic effects in NVSS which cause particular polarization position angles (or $n\pi$ multiples thereof) to be seen more frequently than others.

- For each 30 square degree field, the POSSUM pipeline will generate a histogram of the polarization position angle in each pixel.

- As the survey progresses through each field-of-view, a script (written by POSSUM team members) will create a running sum of these histograms.

Questions:

- **Any further non-'engineering' but general catalogue tests that we can identify?**

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Time for discussion – please take notes and mail these to participants

Thanks