

Discussion III

Follow-up & Synergies

What do we want? – Individual detections

- Images (from X-ray – radio) and optical spectra
 - Of radio continuum + HI absorber
 - Optical redshifts + line ratios
 - CO, OH
 - UV? (DLAs) – for int. systems, opt+NIR imaging
 - metallicity
 - High-res radio data
 - All of this info. should go into CHAD/database
 - Need to separate based on all targets vs. HI dets
- Are photometric redshifts good enough?

What do we want? - Stacking

- Spectroscopic redshifts?
 - Is that enough?
 - Can we stack – velocity range of HI compared to CO/Optical z's.
 - Associated vs intervening sources velocity range (i.e. is it easier to stack intervening sources?)

Current optical facilities

- Nth:
 - WEAVE-LOFAR – all sky, radio-selected (dec>-27)
 - J-PLUS/J-PAS (ph-z) – 12 optical filters
 - Others? SDSS
- Sth:
 - Taipan (i=17 mag limited)
 - WAVES? (MOS on VISTA)
 - DEVILS (MOS on AAT, deep fields, optical selected)
 - Others? SALT?
 - S-PLUS (identical to J-PLUS). 1st data release 2018?
- EUCLID – all sky redshifts (c. 2024)
- Can we do anything about sky overlap?

Where do we go from here?

- How many HI detections do we expect by ~2023?
 - 2024 – Euclid + LSST + next gen. spectrographs
- Everything $\text{dec} > -27$ can be followed-up with WEAVE+JPLUS/JPAS
 - Start with Nth fields (ASKAP+MeerKAT)?
 - Target all radio sources (not just detections)?
- Is there any other options in the sth?
- Contact person? How do we best co-ordinate?
 - Joint proposals (i.e. ALMA, HST)
 - Sharing skills (getting more optical experts on board)
- Co-ordination with simulations/theory:
 - What do we want from theorists (and vice versa?)