A Deep 10sq.deg L-band Survey

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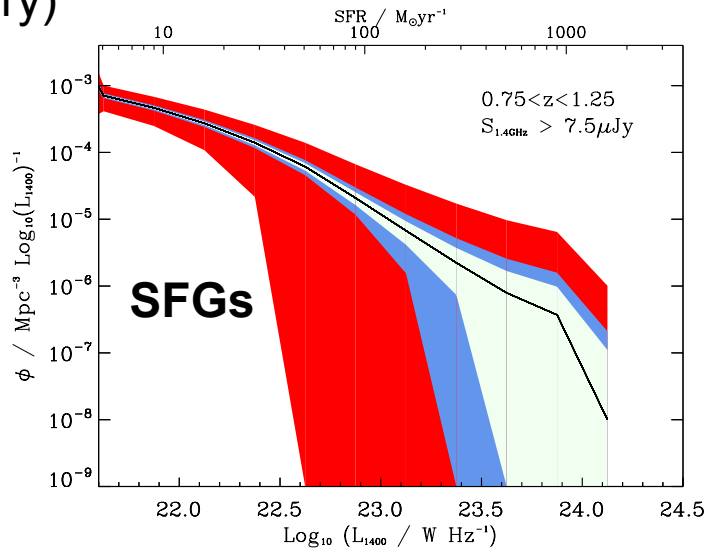
- The evolution of AGN activity (0 < z < 8)
- The evolution SFGs (0 < z < 4)
- The environmental influence on galaxy evolution
  - Galaxy evolution in clusters, ~100 z>1 clusters in 10sq.deg

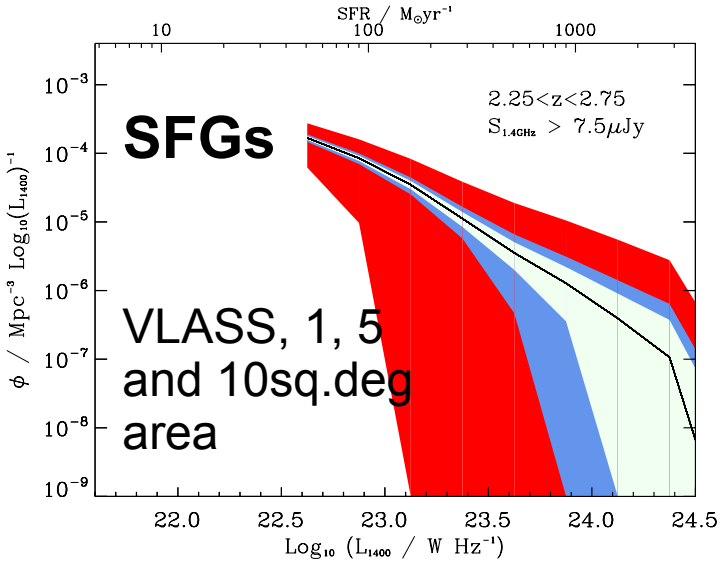
- Large scale structure
  - Measure galaxy clustering on >10Mpc scale at z>1

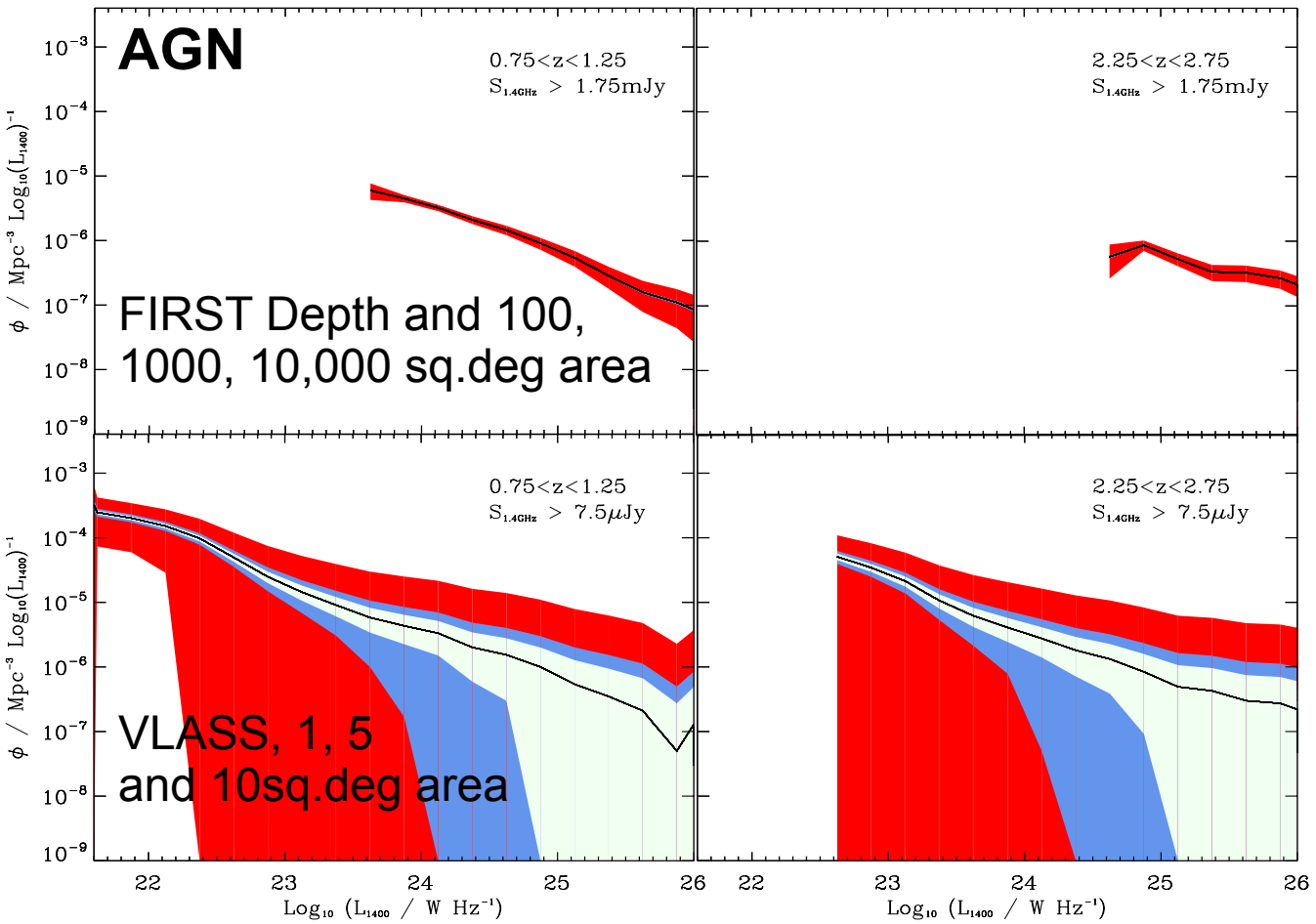
- The polarized sky
  - How does polarization fraction depend on source properties, redshift, environment?

- Commensal Deep HI survey with enough areal coverage beneficial to probe at and around the break of the HI mass function at z<0.4

- Commensal transient search, given the many repeat observations







- **Very little science requires deep AND wide**
- Faint source are much more abundant than the bright AGN and ULIRGS - reduces the large area requirement
- Need enough volume to probe all environments at z>0.5
- 10 sq.deg is sufficient for a large fraction of the extragalactic science
- L-band is MORE efficient that S-band
- L-band permits a commensal HI medium-deep survey

Field	Coordinates	Area	Optical Imaging	Near-IR	Mid-IR	Spectroscopy
COSMOS	10 00 29 +02 12 21	1.5	Subaru, CFHT, DES	UltraVISTA	SCOSMOS	zCOSMOS
XMMLSS	02 22 00 -04 48 00	4.5	Subaru, CFHT, DES	VIDEO, UKIDSS-UDS	SWIRE, SERVS	VVDS, OzDES
ECDFS	03 30 08 -28 38 00	4.5	DES, VST	VIDEO	SWIRE, SERVS	OzDES