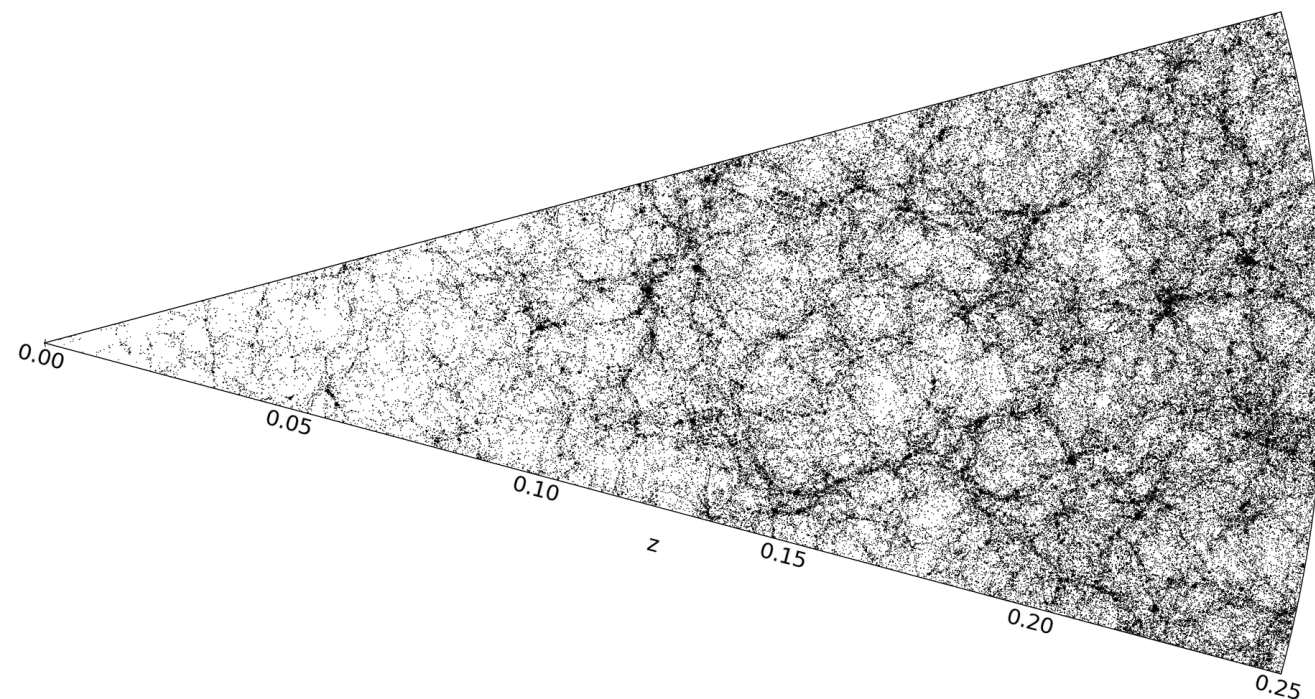


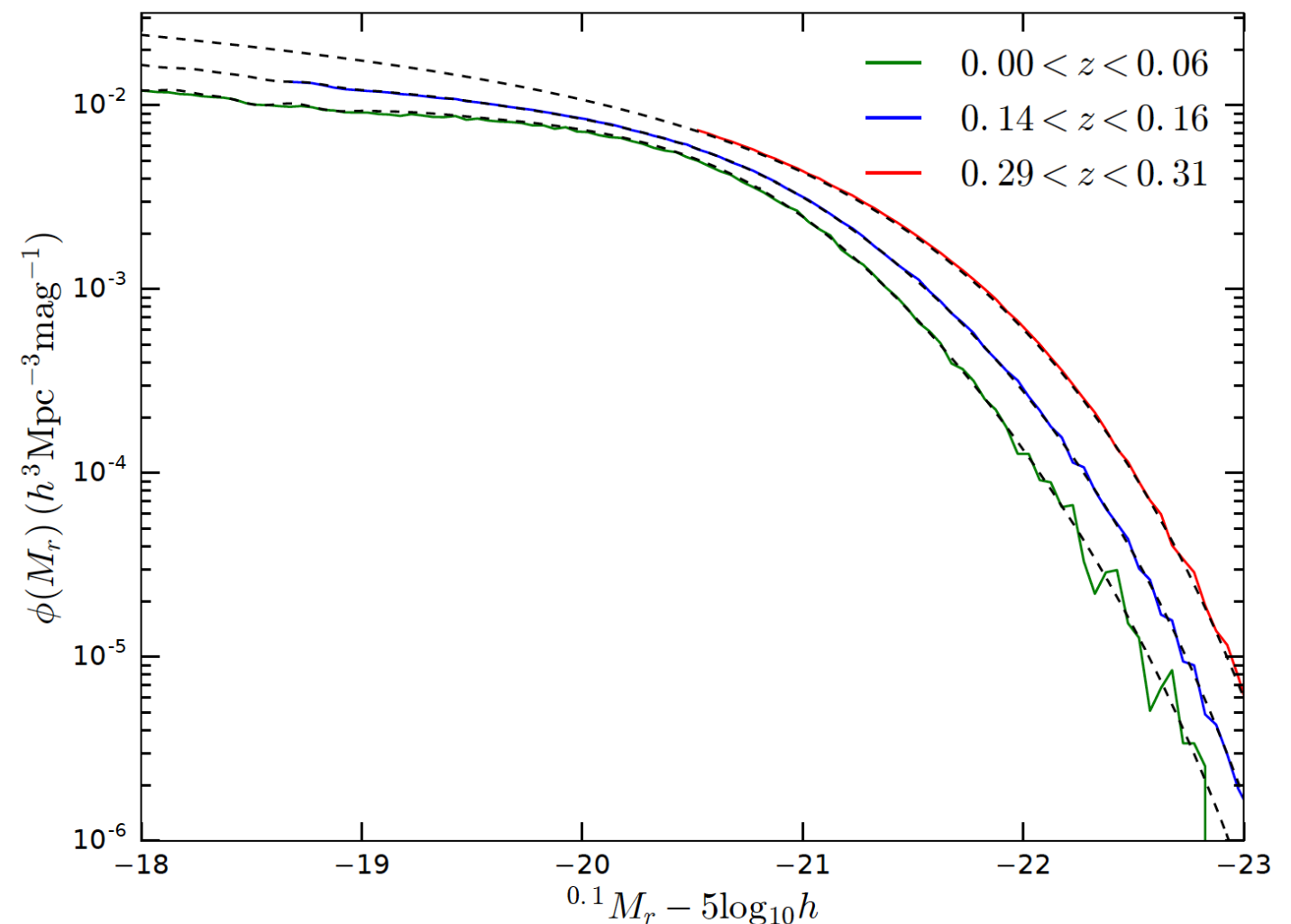
MXL Mock Catalogue

Alex Smith, Shaun Cole, Carlton Baugh, Zheng Zheng,
Raul Angulo, Peder Norberg, Idit Zehavi

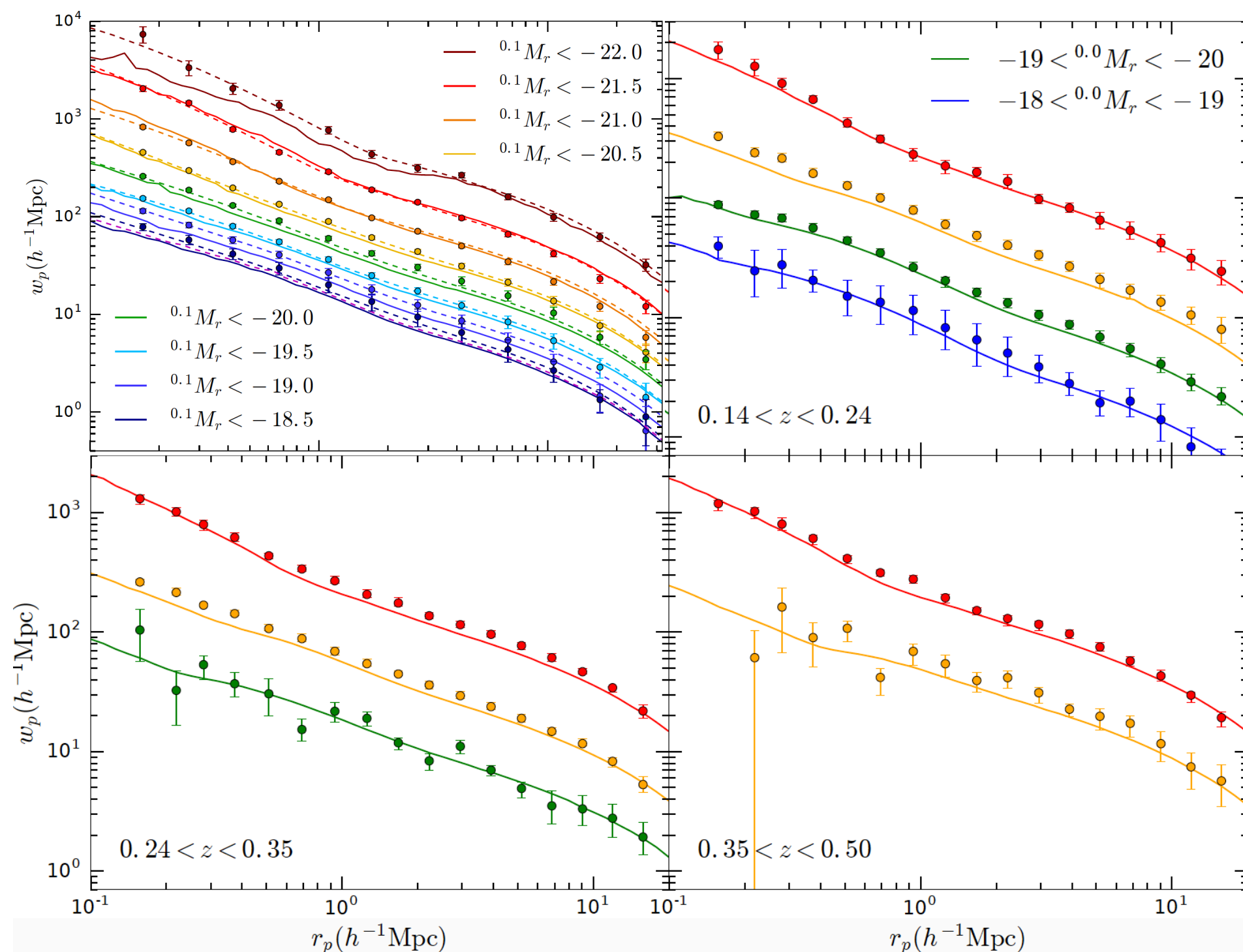
- Millennium-XXL Simulation
 - $\Omega_m = 0.25$, $h=0.73$, $\sigma_8=0.9$
 - Box size 3Gpc/h
 - Particle mass $8.456e9$ Msun
 - 20 particle halo resolution
- Halo positions, velocities and masses interpolated to make halo lightcone catalogue
- Lightcone reaches $z \sim 0.5$ without periodic replications



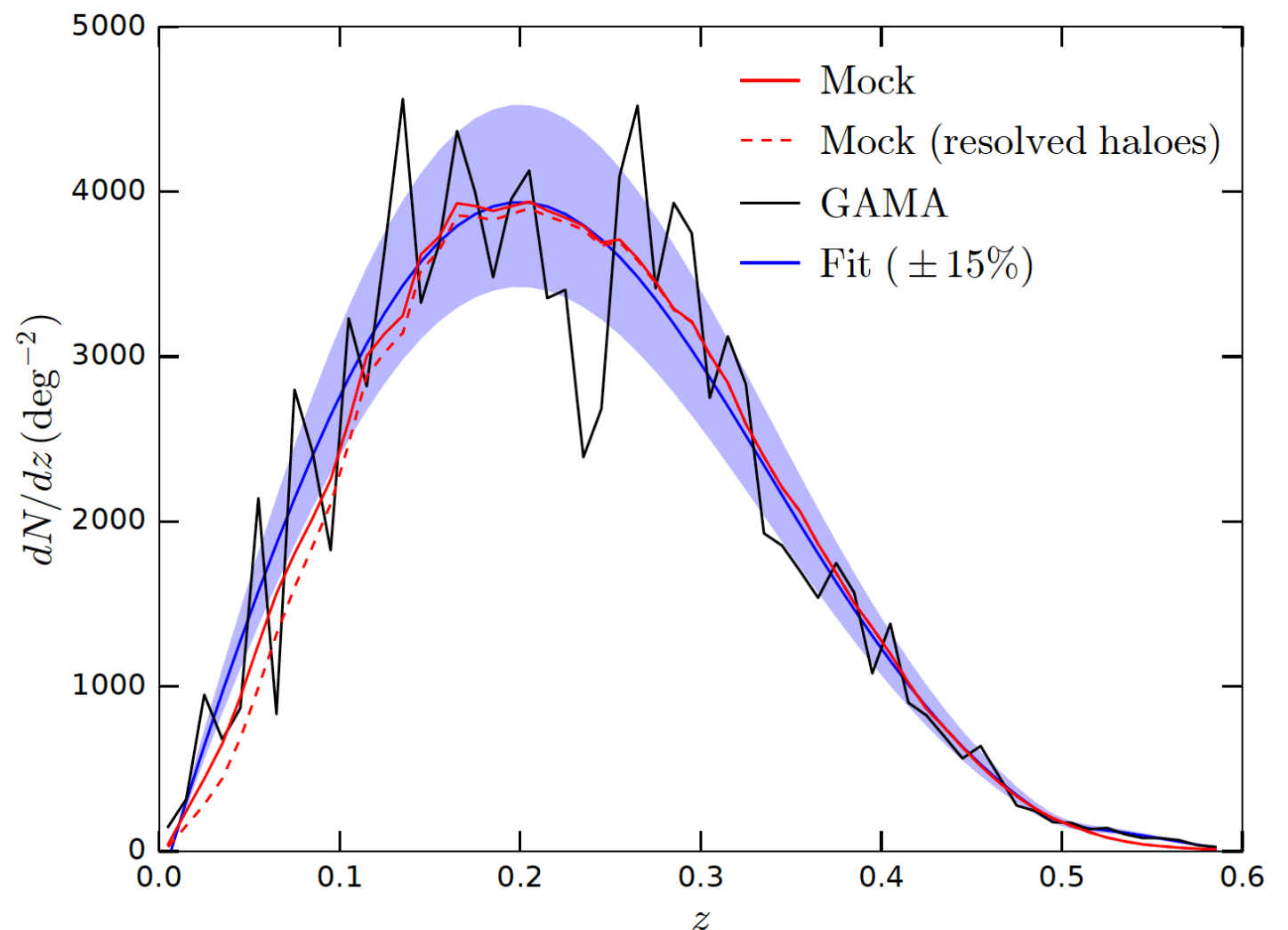
- Haloes populated with galaxies using best fit SDSS HODs (Zehavi 2011, in Millennium cosmology)
- HODs evolved to produce target luminosity function
- SDSS ($z < 0.1$)
- GAMA ($z > 0.2$)



- Clustering compared to SDSS and GAMA



- Catalogue complete to $r=20$
- Unresolved haloes added at low redshift (unclustered)
- dN/dz in agreement with GAMA
- Also contains g-r colours
- See Smith et al 2017 (arxiv:1701.06581)



MXXL Mock Catalogue



On NERSC:

/project/projectdirs/desi/mocks/bgs/MXXL/desi_footprint/v0.0.4/
BGS.hdf5

Catalogue contains:

- ra & dec
- observed & cosmological redshifts
- M200m
- apparent & absolute r-band magnitudes
- g-r colour
- flag indicating central/satellite and resolved/unresolved
- MXXL halo id & snapshot number