
CLUSTERING REDSHIFT WITHIN MICE2

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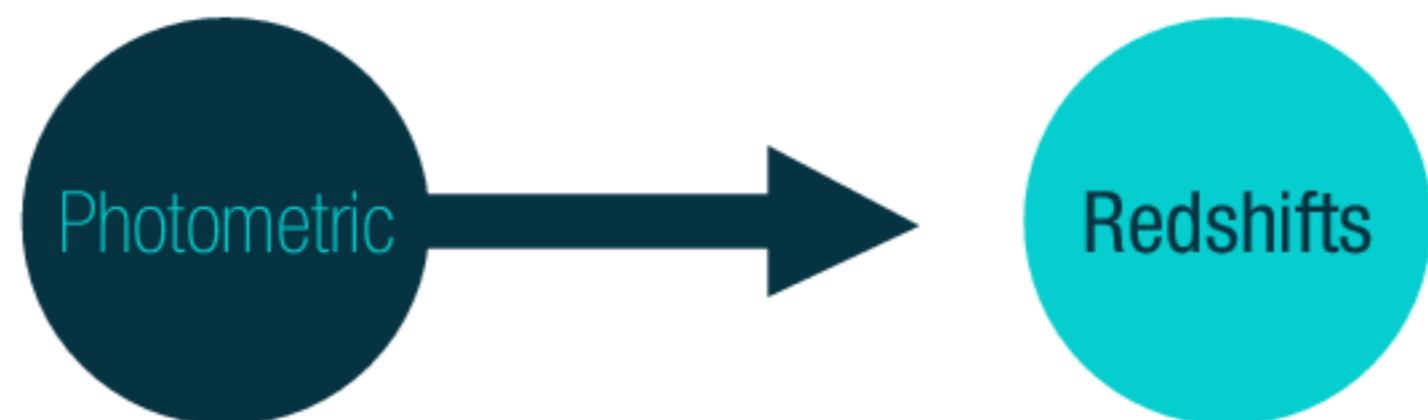
Why an other
METHOD ?

Requirement of $0.002(1+z)$ on mean redshift

Need to « validate » the measurement

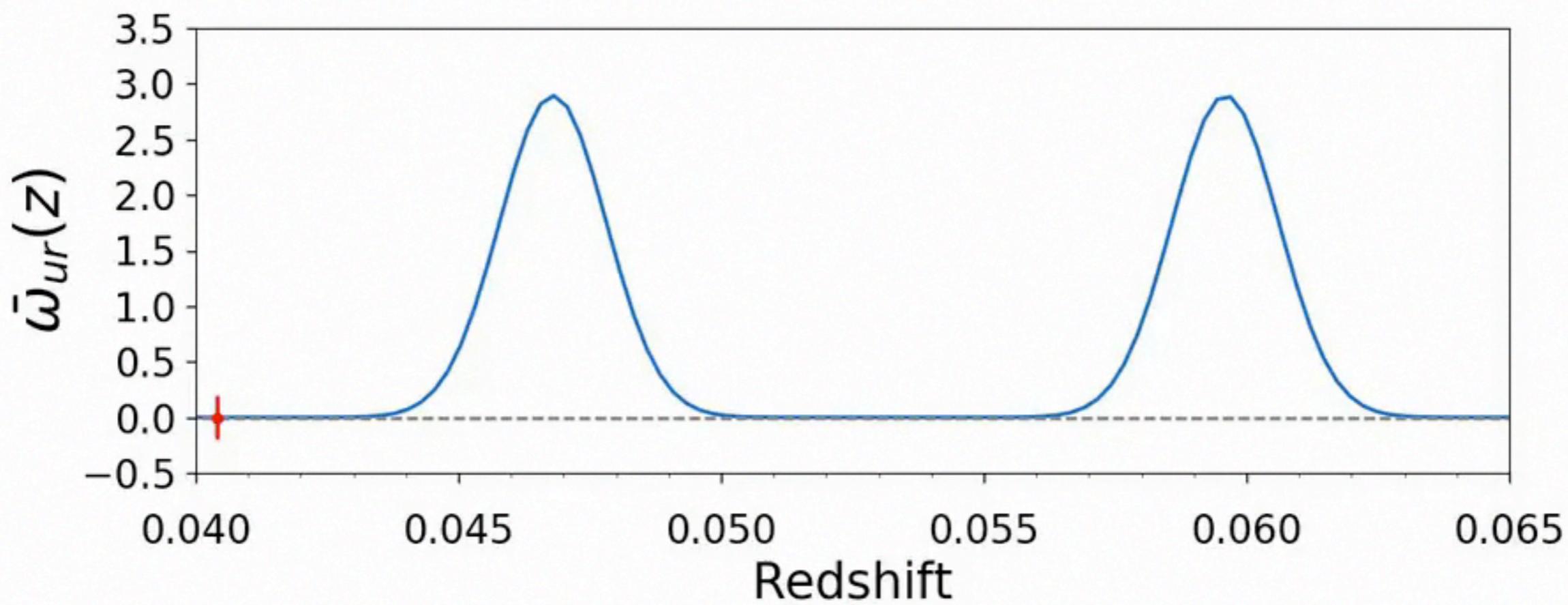
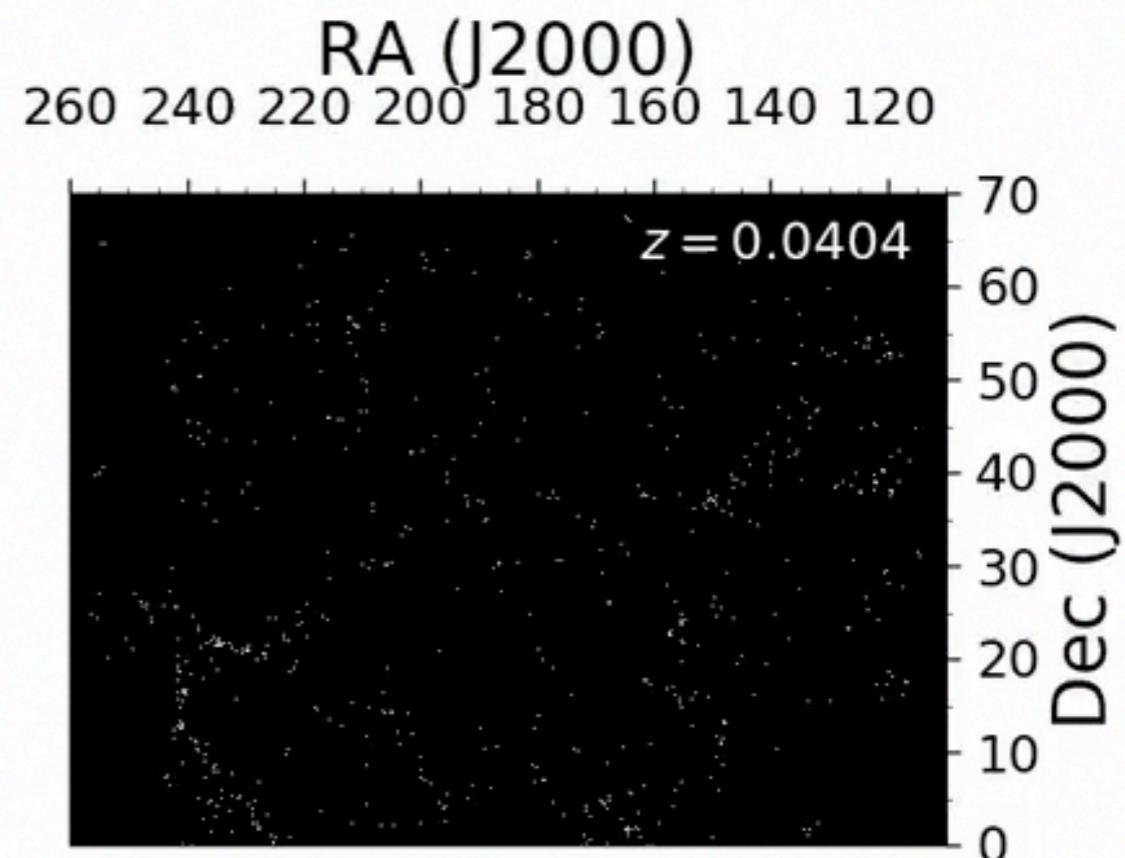
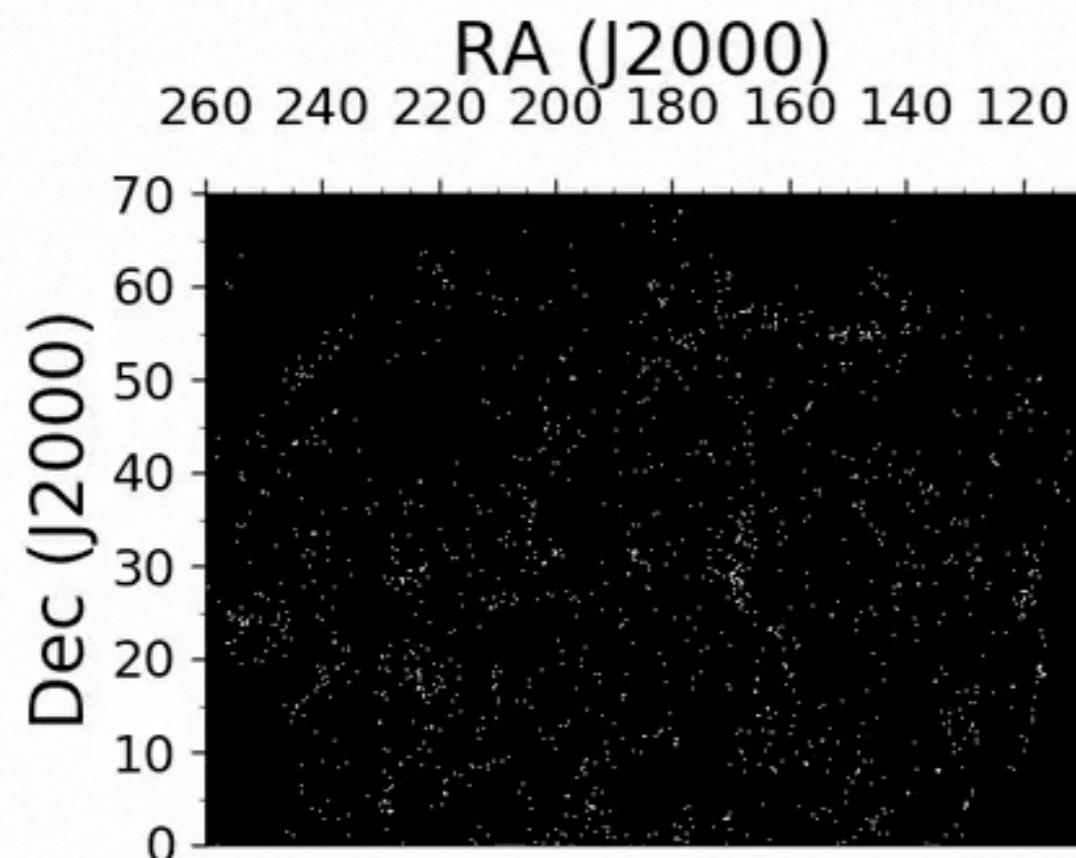
Photometric Redshifts

SEDs or Training Sets



Clustering Redshifts

Spatial correlation with reference set



EUCLID MICE2 SIMULATION



Hibrid HOD and HAM simulation



~ 500M galaxies from $0.07 < z < 1.4$ over 5k deg^2



We choose to focus on $100\text{deg}^2 \rightarrow \sim 8\text{M objects}$

Simulate Euclid photometry

Depths used: u=24.2, g=24.5, r=23.9, i=23.6, z=23.4, Y=23, J=23, H=23

CLUSTERING REDSHIFT ACCURACY TESTING

Reference sample

200k sources

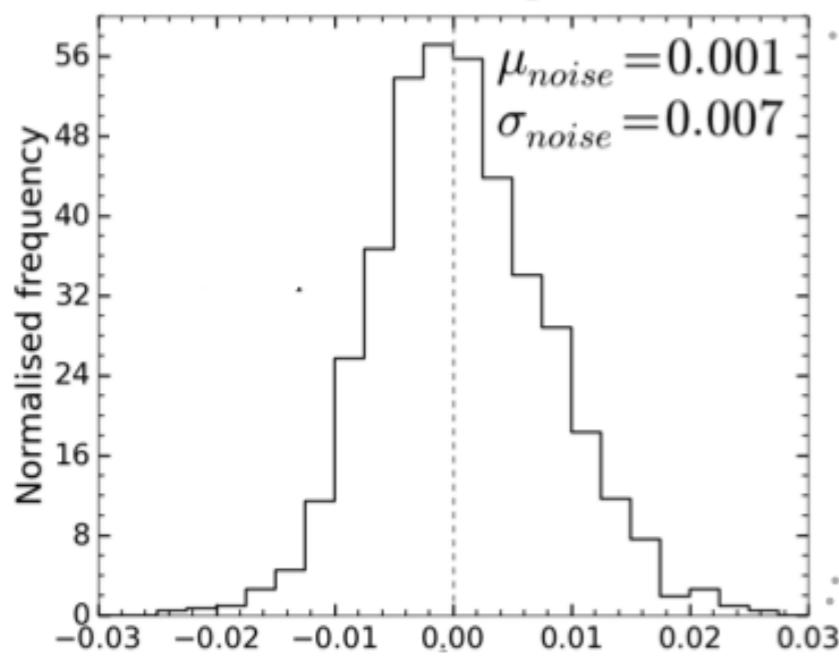
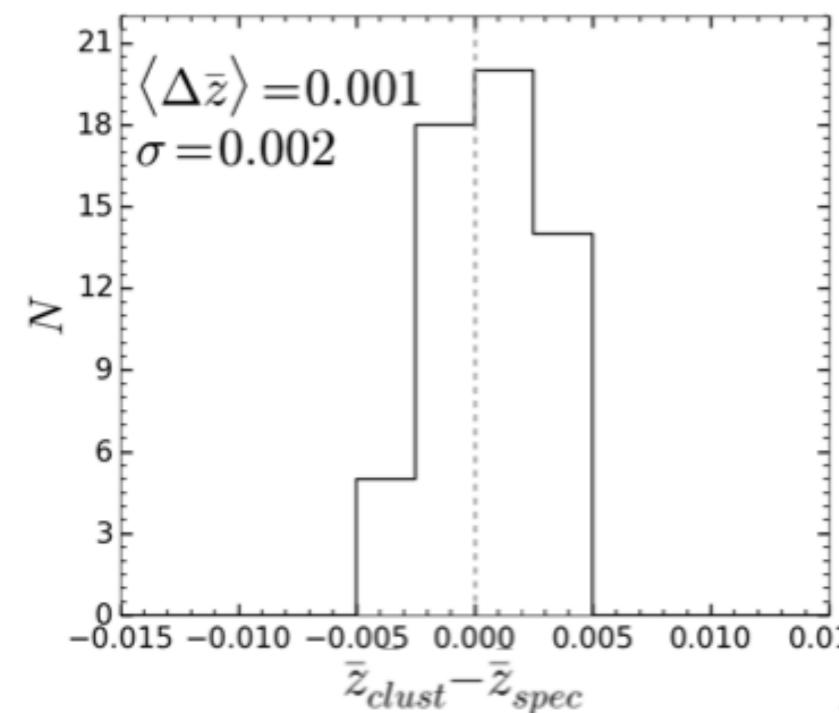
$i < 22.5$

Unknown sample

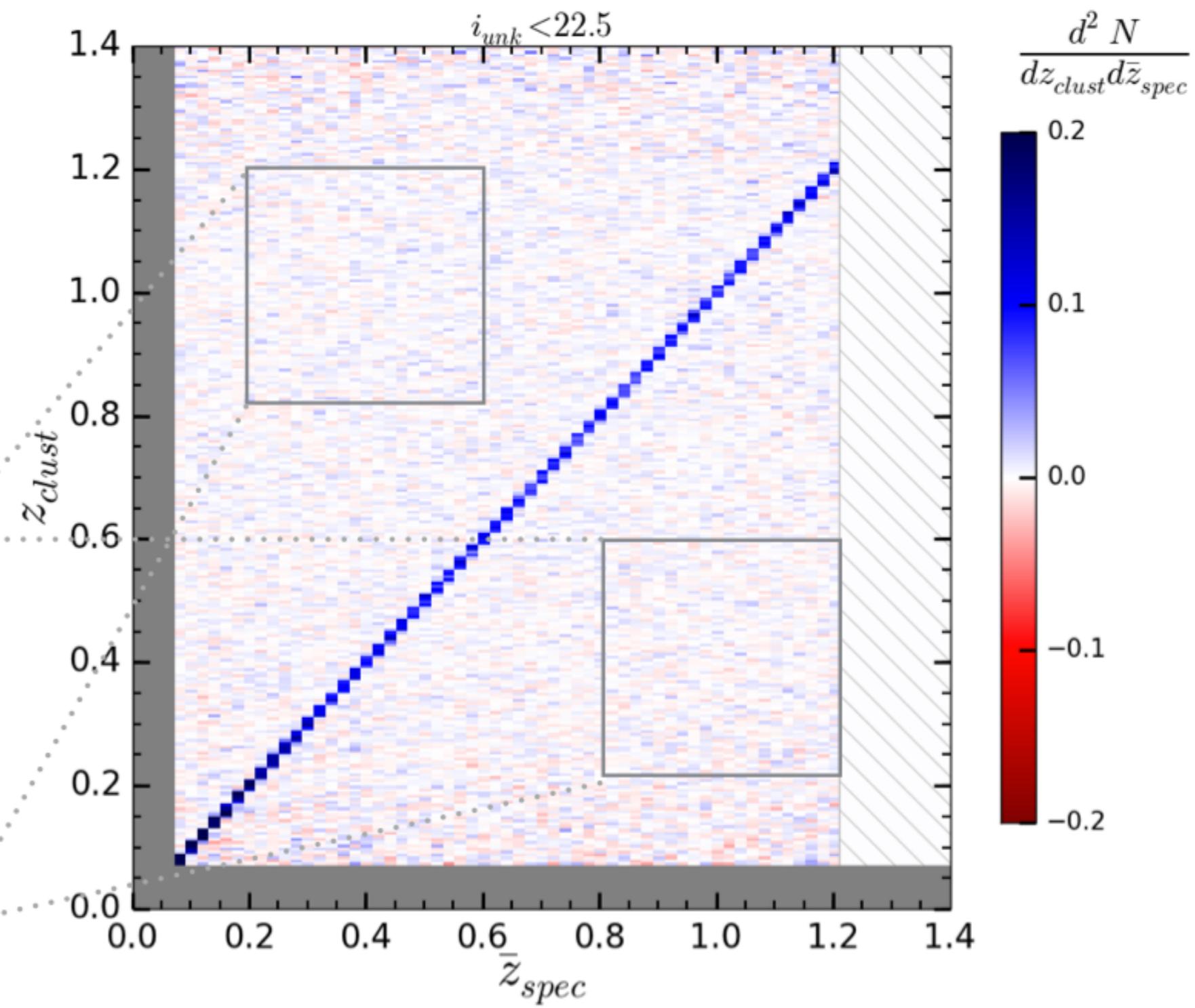
$\sim 114k$ galaxies

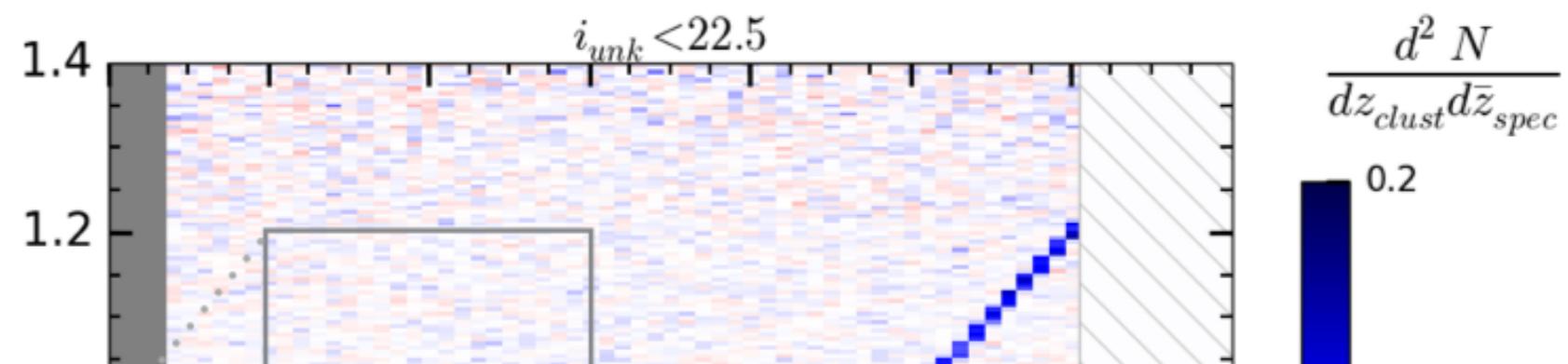
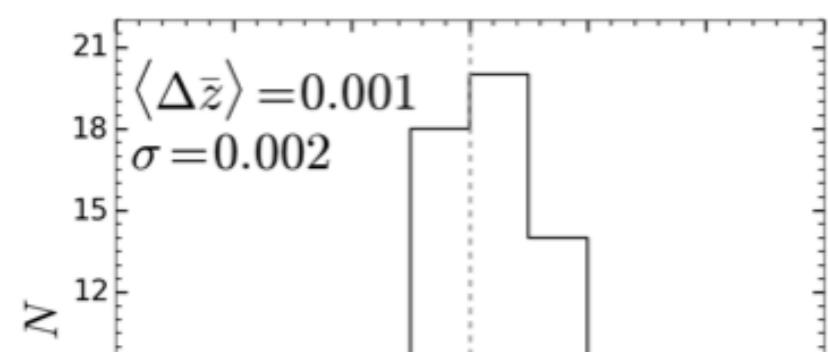
$i < 22.5$

Samples are selected on their spec-z

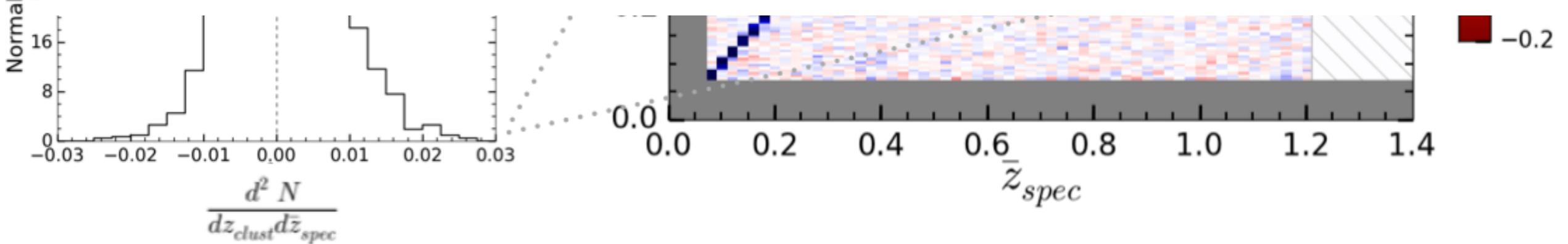


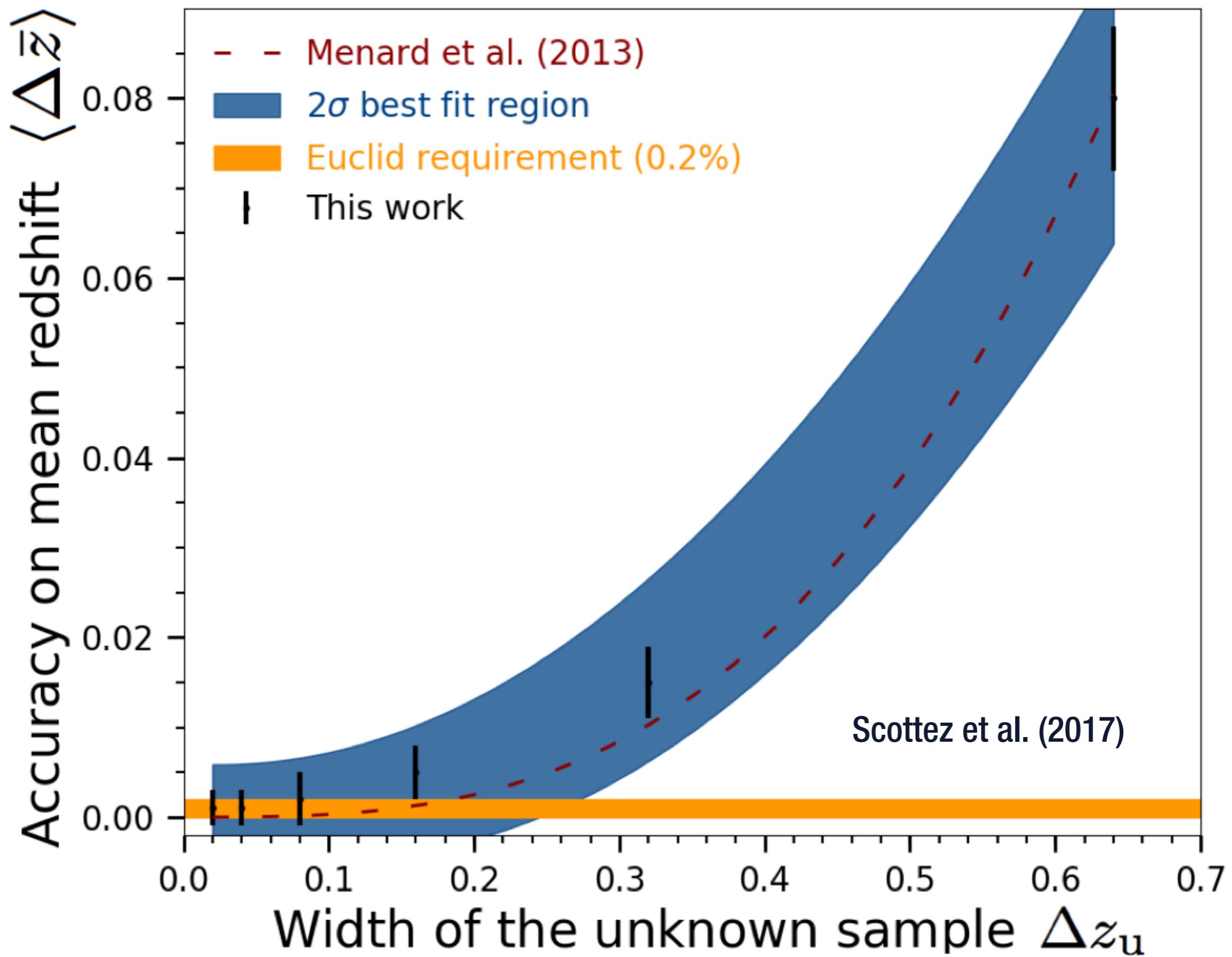
$$\frac{d^2 N}{dz_{clust} d\bar{z}_{spec}}$$





Magnitude	$\langle \Delta \bar{z} \rangle$	σ	μ_{noise}	σ_{noise}	$\langle \text{SNR} \rangle$
$i_{\text{unk}} < 22.5$	0.001	0.002	0.001	0.007	20
$22.5 \leq i_{\text{unk}} < 23$	0.001	0.002	0.001	0.007	19
$23 \leq i_{\text{unk}} < 23.5$	0.001	0.002	0.001	0.007	19
$23.5 \leq i_{\text{unk}} < 24$	0.001	0.002	0.001	0.007	20
$24 \leq i_{\text{unk}} < 24.5$	0.001	0.002	0.001	0.008	19
$24.5 \leq i_{\text{unk}} < 25$	0.001	0.002	0.001	0.007	22





INDIV-Z & TOMOGRAPHY
PRACTICING

Reference sample

200k sources

$i < 22.5$

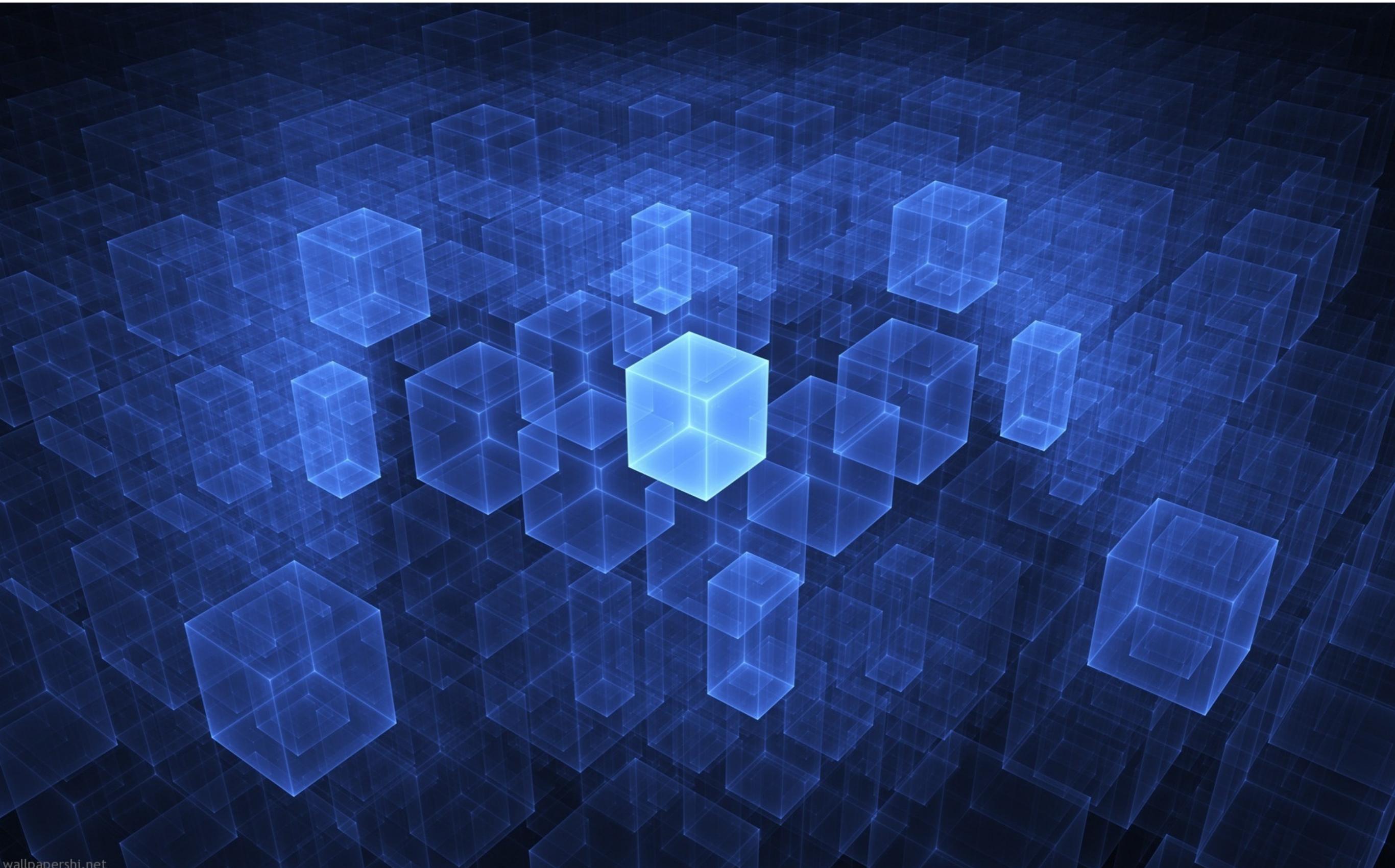
Unknown sample

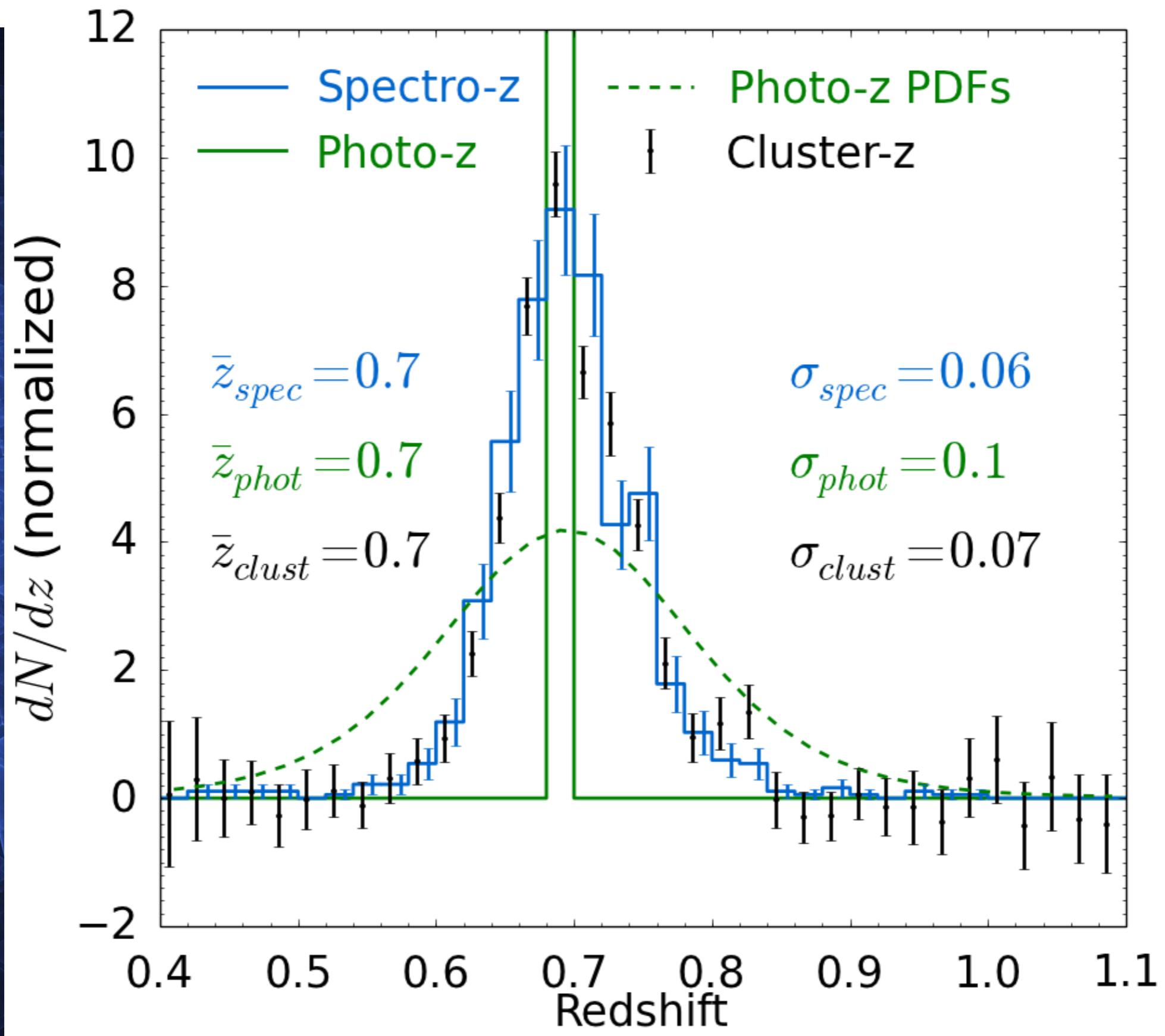
$\sim 8M$

$i < 25$

We split the unknown sample in:

u-g, g-r, r-i, i-z, z-Y, Y-J, J-H

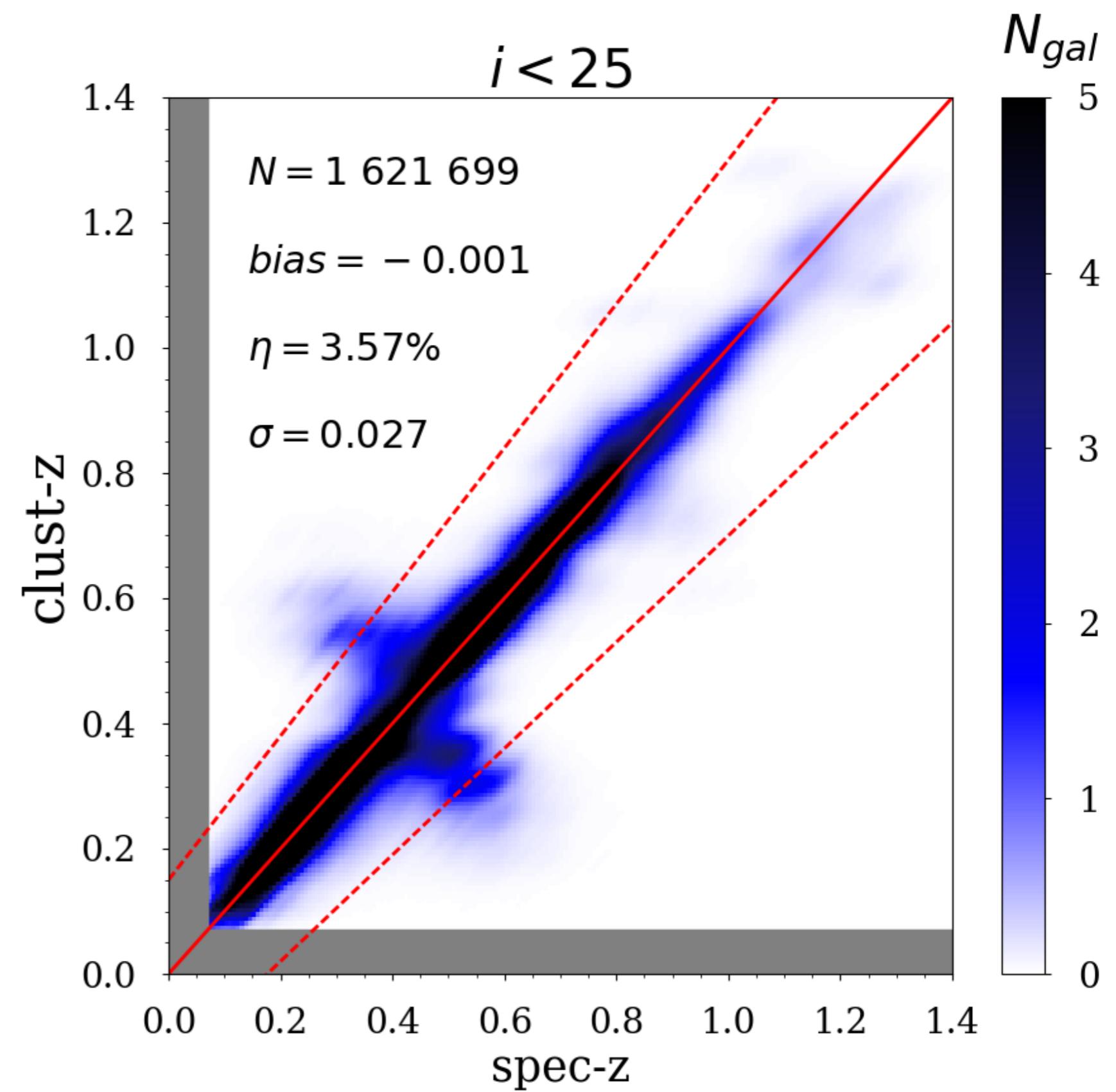


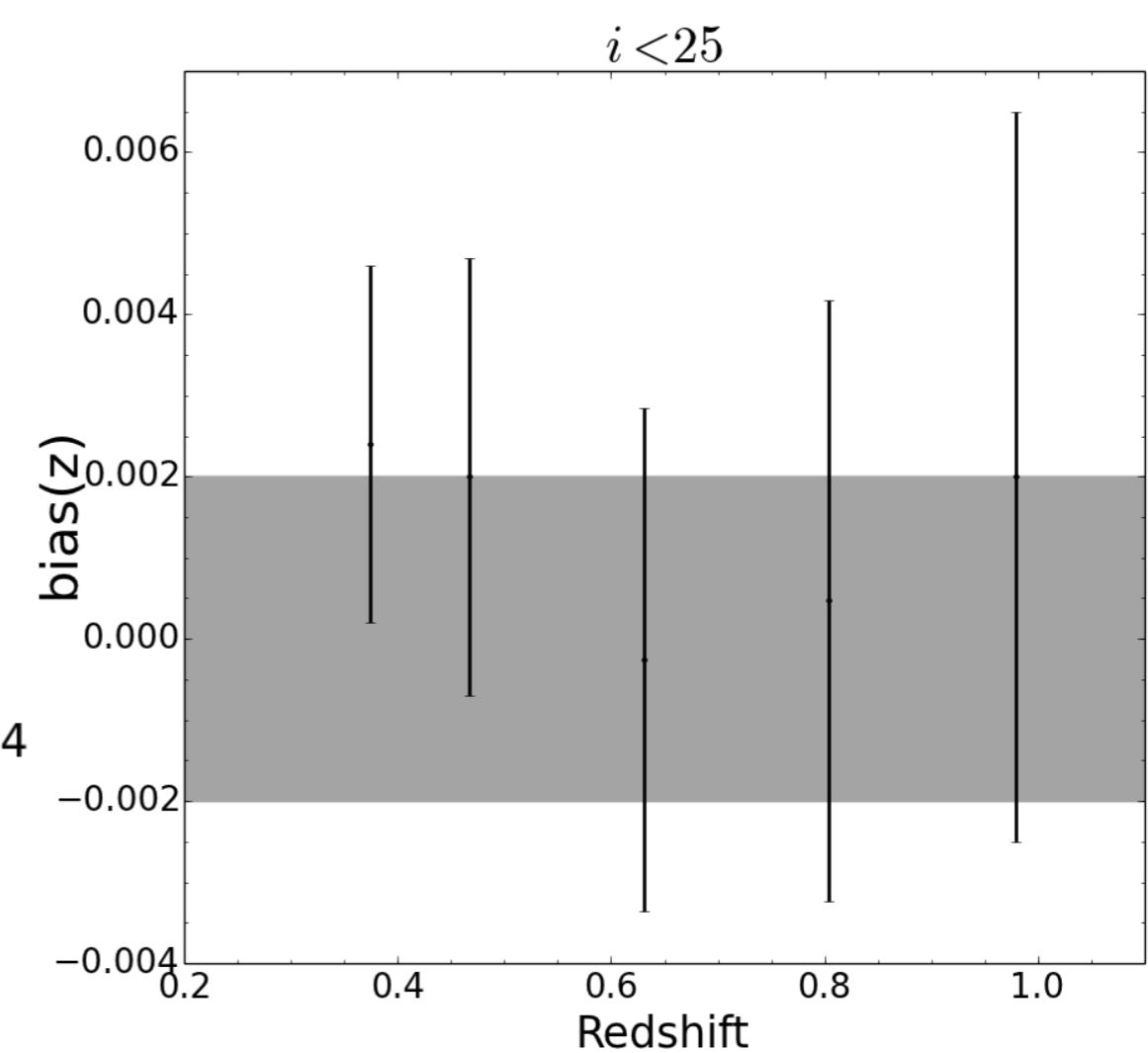
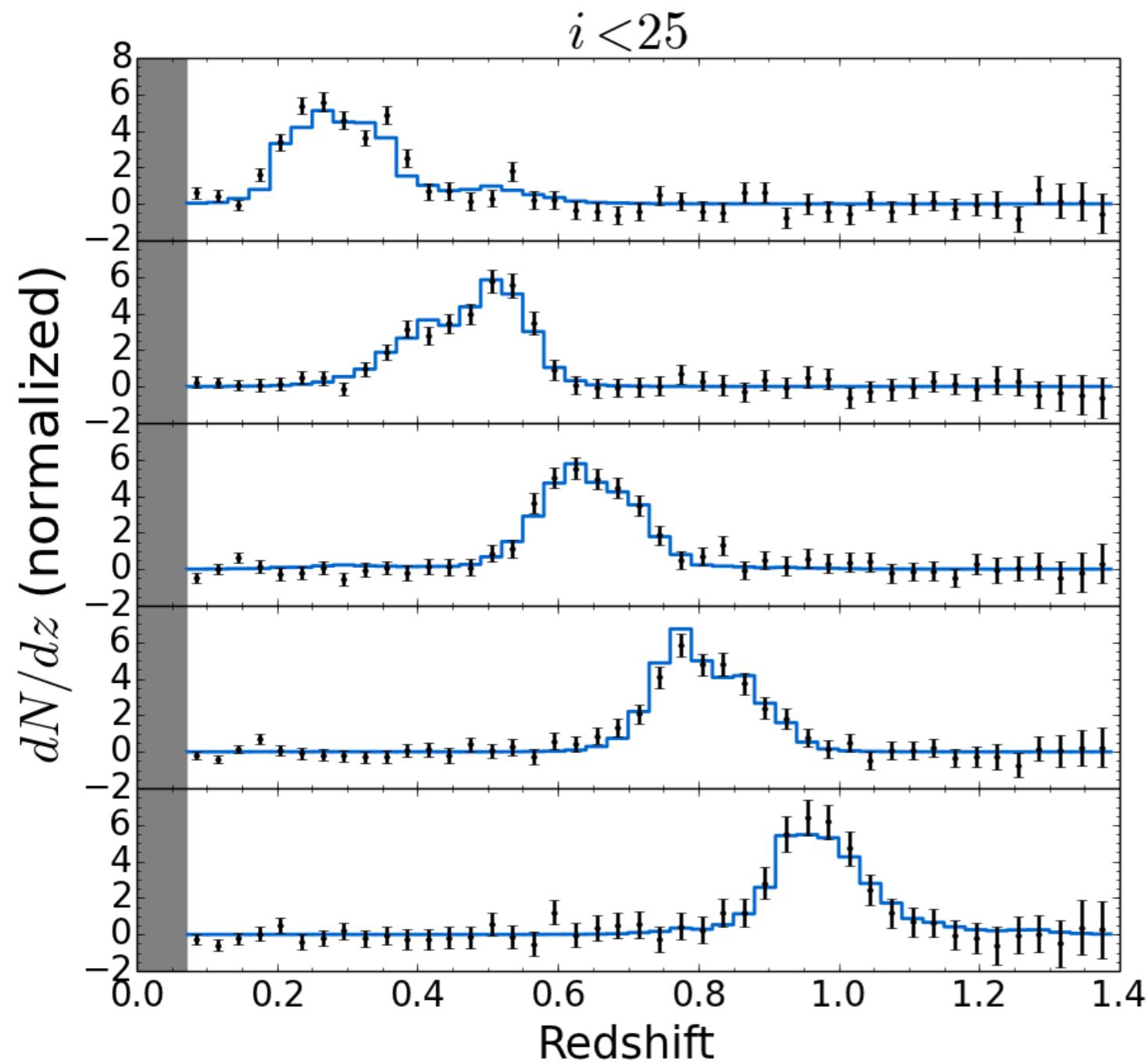


Requirement
on $N_u = 1000$

More than 60%
of lost objects

Will generalized this
to the full color
space in future work







LIMITATIONS

Photometric accuracy, completeness

Z range to 1.4, densest region of color space

Thank you