

Input

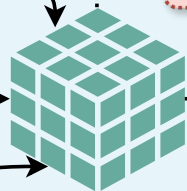
Galaxy catalogue

Random catalogue

$R_{i,\dots,n}$
 δ_v

Density mesh creation

Density field reconstruction



pyrecon mesh

Initial small-scale smoothing

Output

Void positions

Void radii

Void size function

Mesh-free void resizing

$\delta(r)$ around void centres



k-d tree

Rebin to radii R_j when $\delta(R_j) < \delta_v$

Void positions

Iterate over input radii

*Starting from the largest radius

Identify cells with $\delta < \delta_v$

Smooth by R_i^*

Nearby voids within R_i

No

Mark cells enclosed as new void

Yes

Next cell

All cells iterated

Yes

Add voids to catalogue

Next R

No

All radii iterated

Yes

Yes

No

Yes

Yes