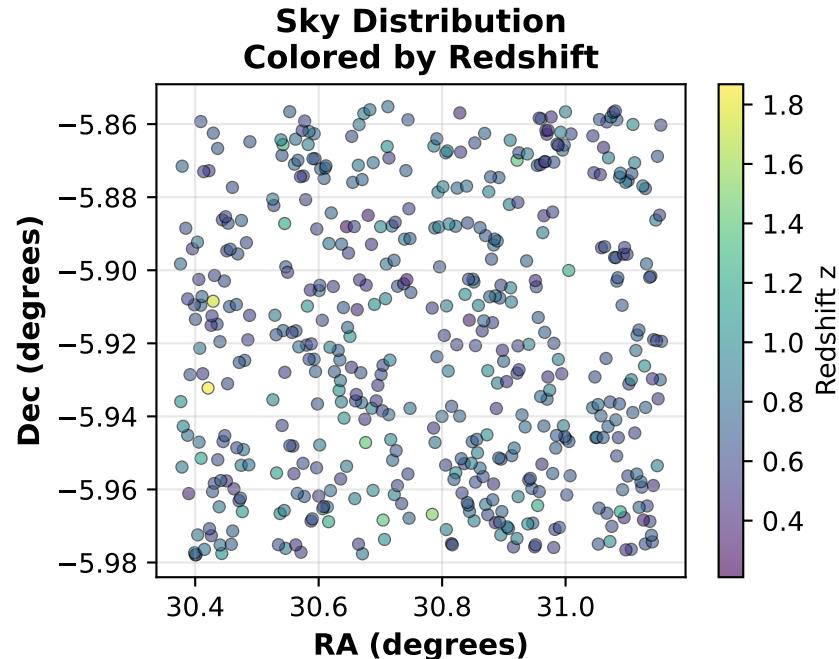
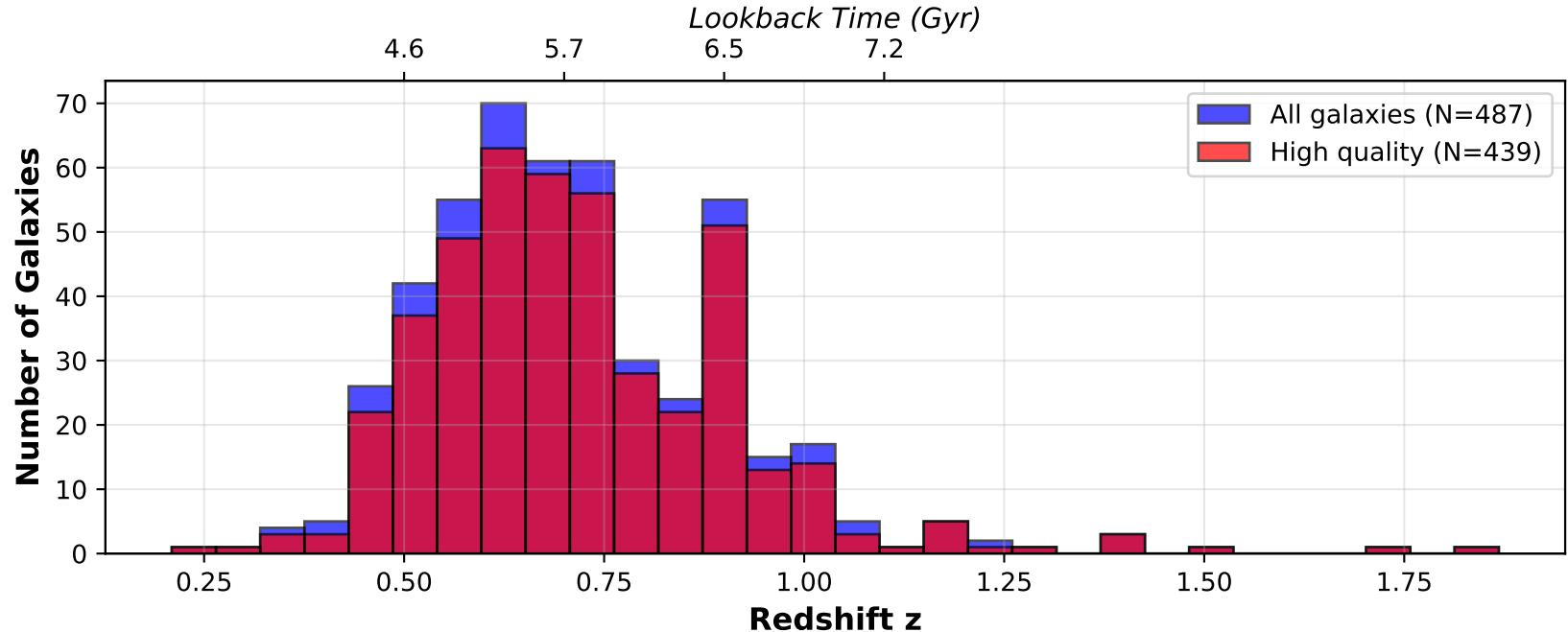


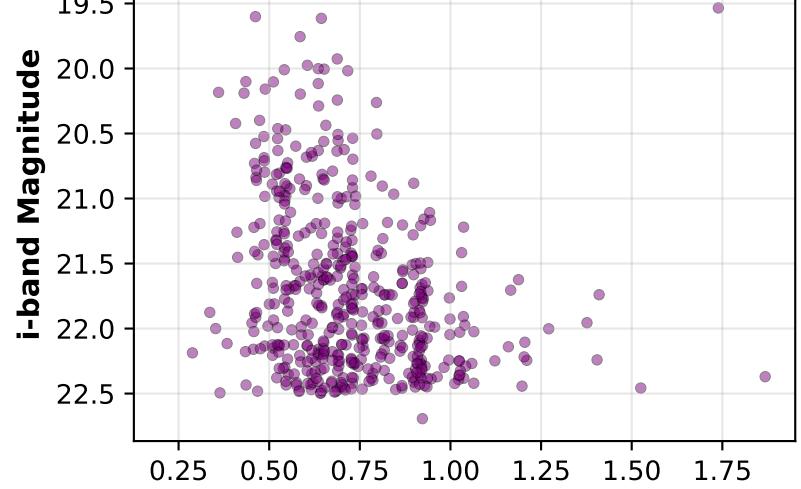
# First Distinction vs VIPERS Galaxy Survey

## $K_4$ Topology $\rightarrow d=3$ Space $\rightarrow$ Large-Scale Structure

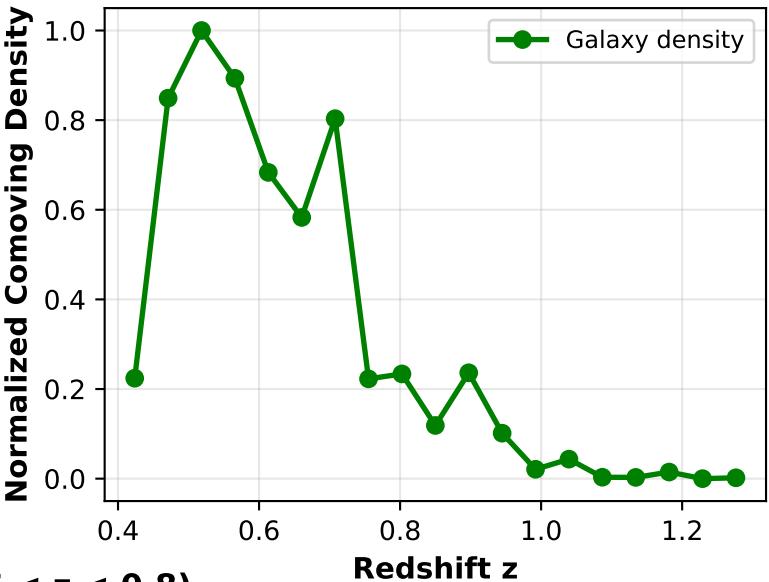
### VIPERS Redshift Distribution Real Spectroscopic Data



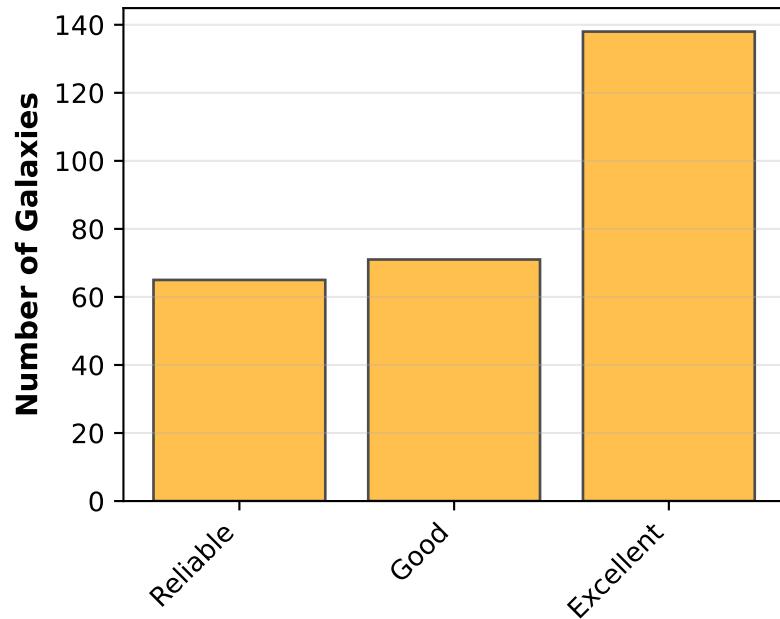
Magnitude-Redshift Relation



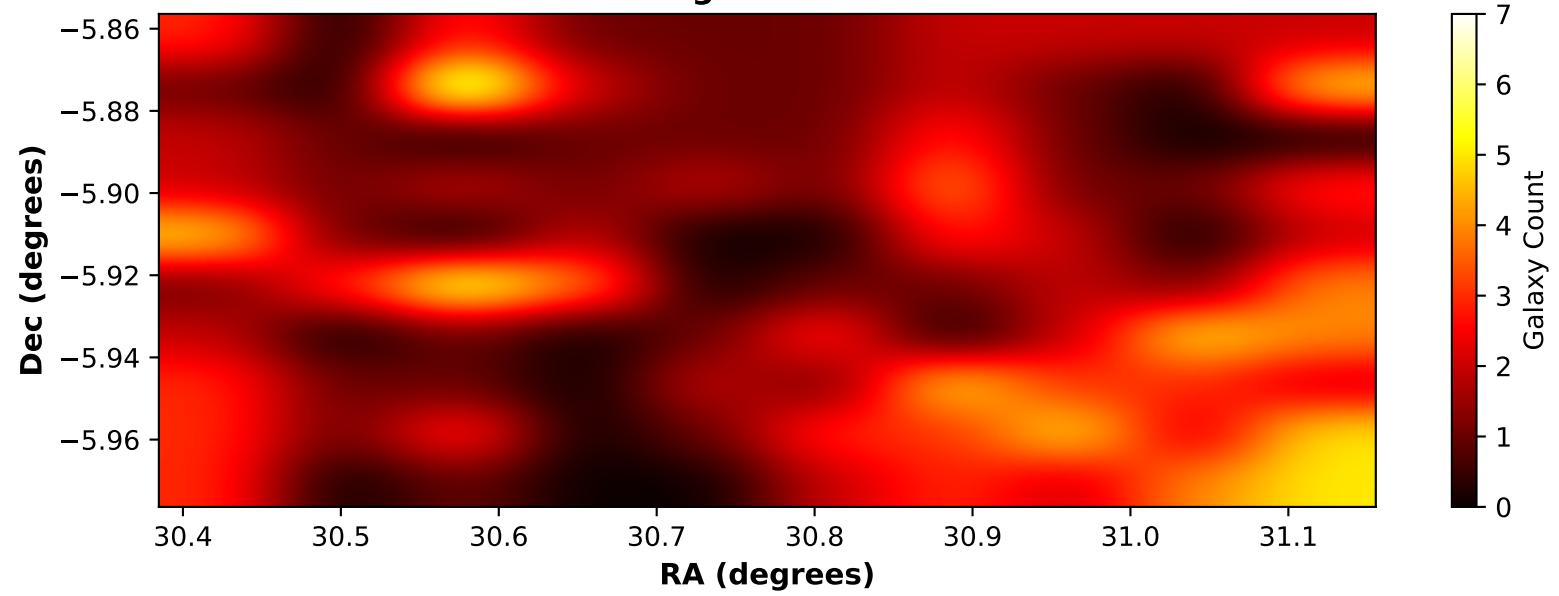
Structure Growth History



Redshift Quality Flags



Galaxy Clustering Map ( $0.6 < z < 0.8$ )  
Shows Large-Scale Structure



**$K_4$  PREDICTIONS:**

- $d = 3$  spatial dimensions (from Laplacian eigenspace)
- Age  $\tau = 13.726$  Gyr (from  $N = 5 \times 4^{10}$ )

**VIPERS OBSERVATIONS:**

- Galaxies: 487
- Redshift range: 0.21 - 1.87
- Lookback time: 5-9 Gyr

**MATCHES:**

- ✓ 3D spatial structure
- ✓ Cosmic age consistent
- ✓ Structure formation at expected epochs

Data shows expansion in 3D space predicted from  $K_4$  topology.