

Workshop Questions

i. Is there a "massive galaxies" problem at all?

- Are the space-densities of galaxies in the top quartile of stellar mass consistent with theoretical expectations across all cosmic epochs?
 - Dark halo mass distributions are OK
 - "Downsizing" is an expectation of hierarchical models because although large halos form last they start collapsing first
 - Observationally do we all agree on color-mass-metallicity-size-morphology-z distributions ?

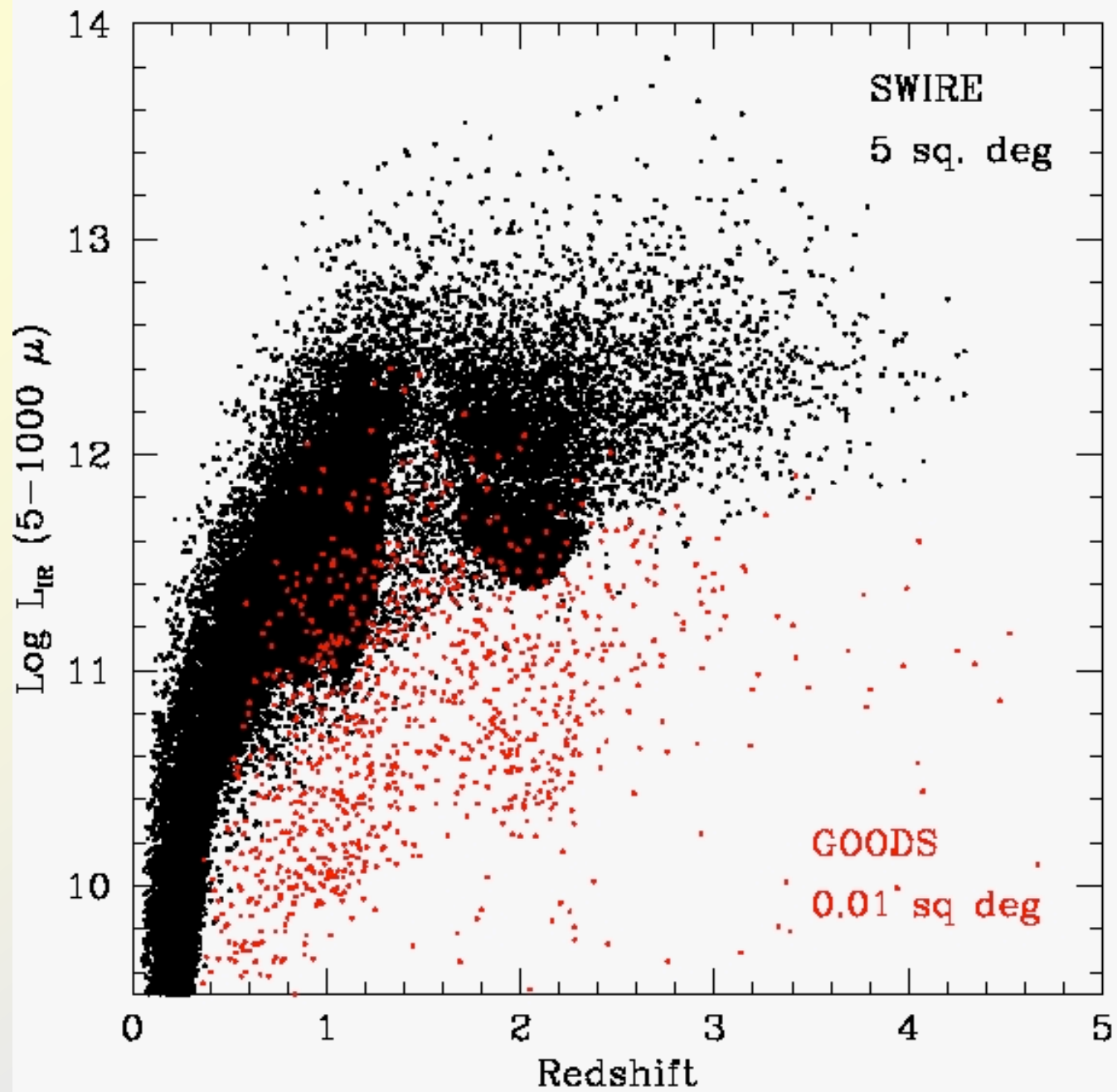
Workshop Questions

- **What are the successes and failings of hierarchical models and what are the most crucial tests?**
 - Can we understand color-metallicity-mass-morphology relations?
 - How do we curtail SF in massive galaxies? - Rachel's mass threshold
 - Bimodal (hot vs cold) accretion modes don't produce color bimodality - Romeel
 - Role of major mergers and fly-bys of large disks ?
 - What is the highest mass system demonstrably to have formed monolithically (Carlos de Breuck, tomorrow)?
 - Where is the peak of the Madau/Lilly plot?

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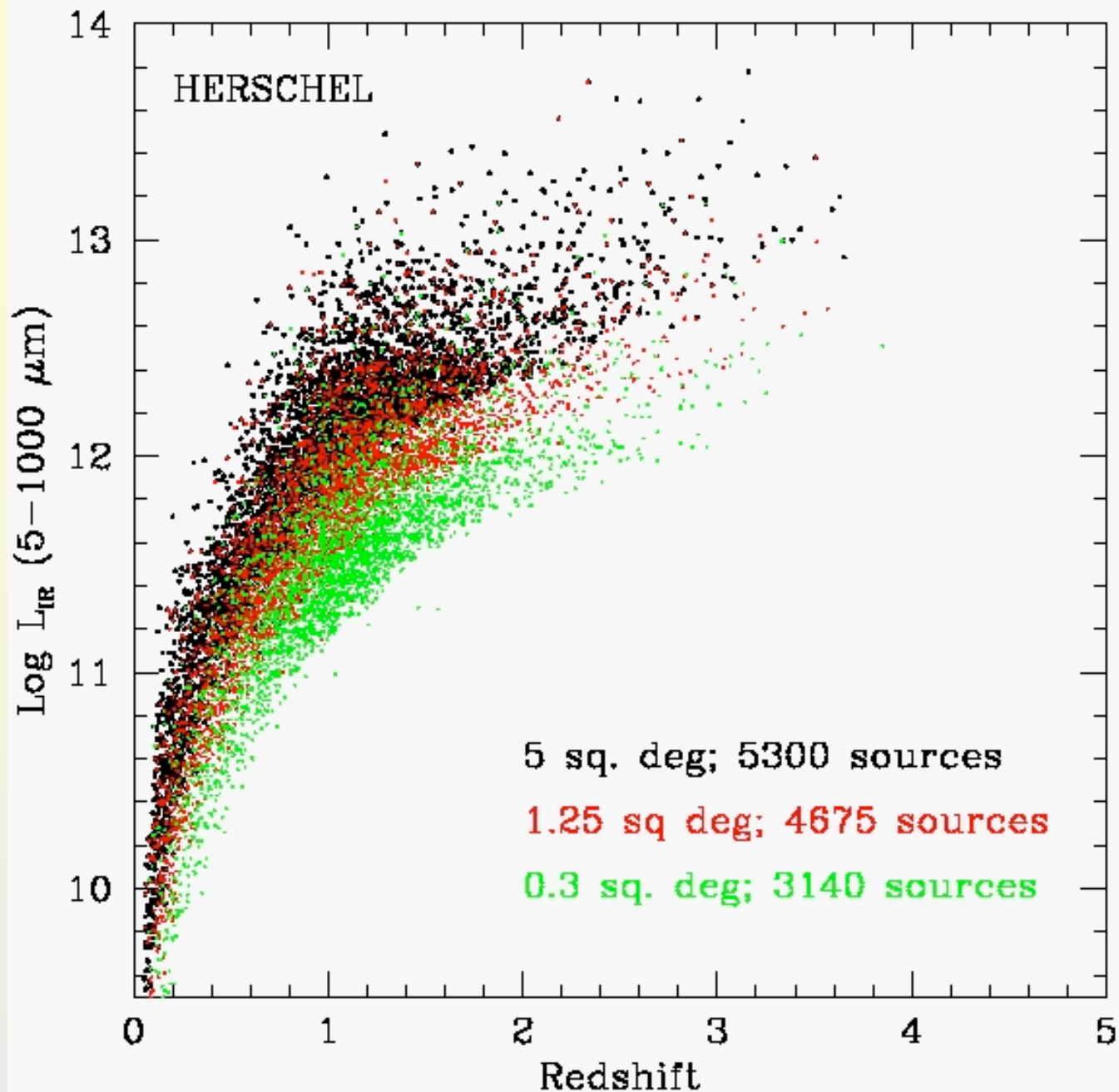
iii. What is the relation, if any, between very dusty (star-forming) and very massive galaxies?

- Connecting populations across epochs by:
 - space densities, clustering properties, mass in stars
- What is the actual fraction of dusty EROs?
- ULIRGs at high z :
 - extreme SFRs or truncated IMFs?
 - AGN contribution to L_{Bol} ?
 - Cool, quiescent SF in large disks ?



Xu et al, 2004
simulation

$\sim 1/10^{\text{th}}$ of each
survey



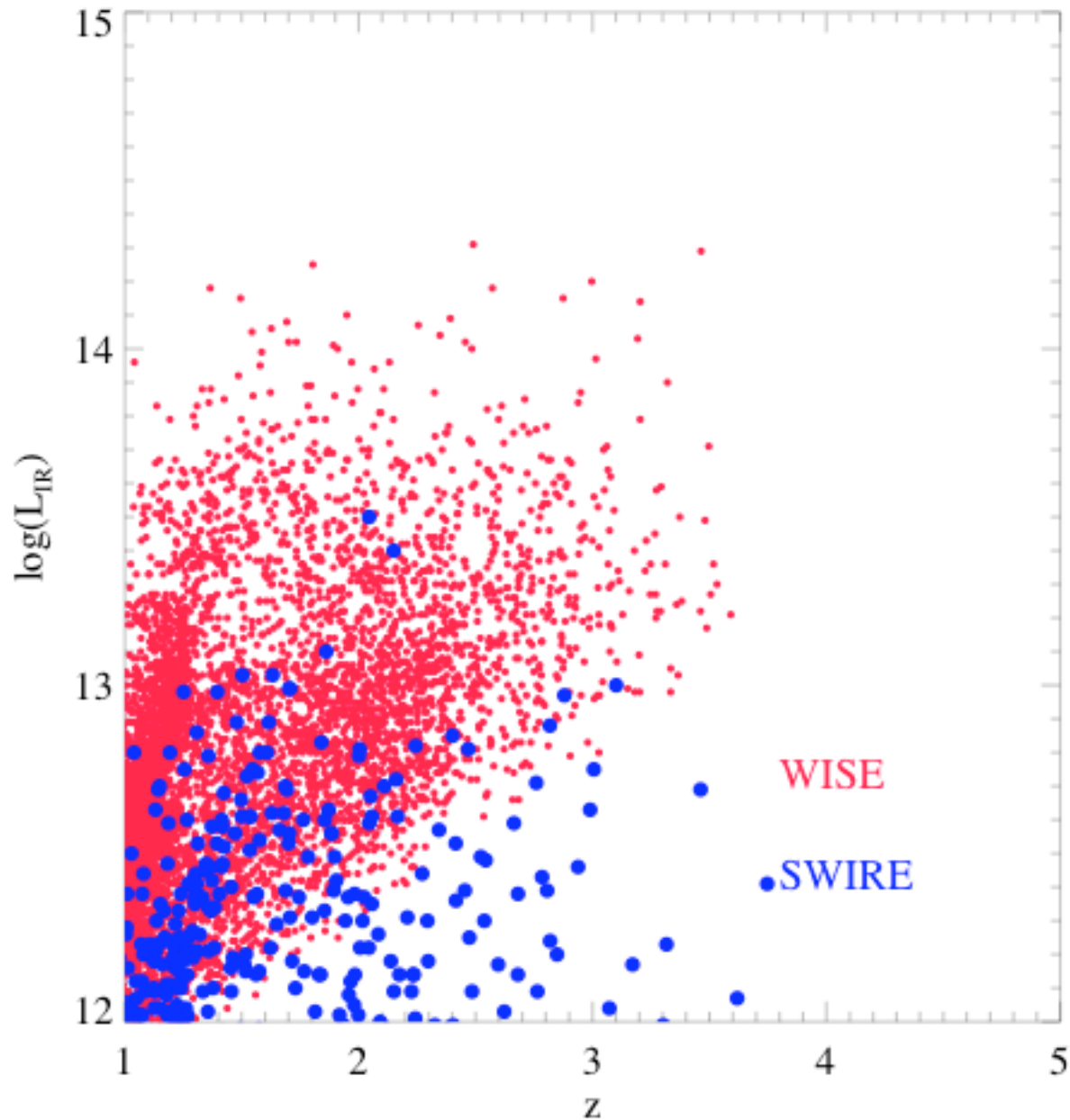
SPIRE

In ~140 hours
SPIRE can survey
at $250 \mu\text{m}$:

5 sq deg to
~ 20 mJy

1.25 sq. deg.
to ~ 10 mJy

0.3 sq deg to
~ 5 mJy



WISE:

MIDEX, launch 2007

PI: Ned Wright, UCLA

All-sky 3.6, 4.5, 12, 23 μm