

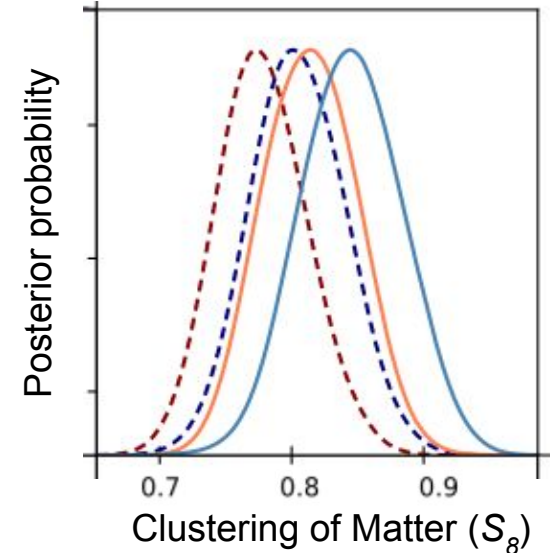


Survey synergies: Direct calibration of weak lensing surveys with spectroscopy

Noah Weaverdyck (LBNL)

- Cosmology with LSST needs accurate $p(z)$
- “Learn” $z \sim f$ (photometry) from spectroscopy
 - Challenge: **spec samples not representative of photometric samples**
- DESI-II and Stage-5: measure LSST $p(z)$ *directly*
 - Representative
 - Sidesteps systematics
 - Can *refine* samples
- **Other synergies:** characterizing spatial photo-z dependence, constraining baryonic effects, intrinsic alignments, etc

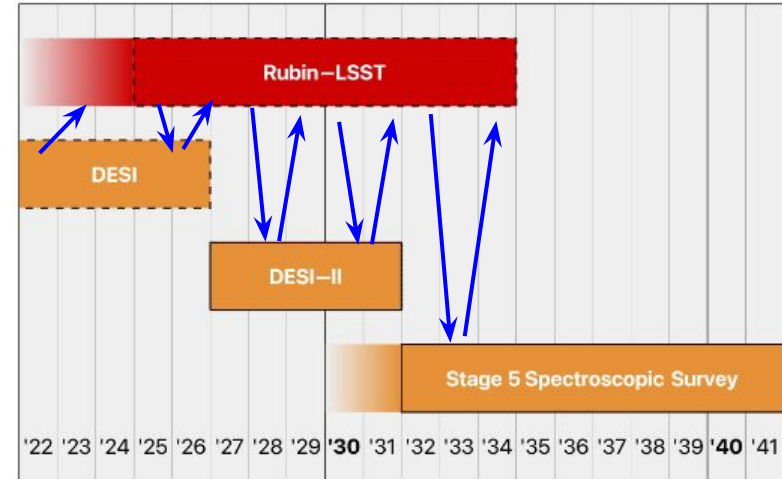
Systematic impact of different photo-z choices
DES Y3, 2x2pt



Giannini+, (DES Collaboration) 2022

“A New Way to Do Science”

- Cross-collaboration analysis as a norm
- Requires support, policies, funding to facilitate
- Cultivate open access, regular public data sharing and release



*But perhaps as important as the science was **a new way to do science** [...]. The SDSS [has] produced **9,299 scientific papers** to date, which have been cited half a million times.*

***Far fewer than half** of these papers have arisen **from within the collaboration, even while the original survey was active**. A **secret of its success**, as important or more than the optics and detectors and software, was the **openness of the data** and the **open tools to access, organize, and work with the data**.*

- James Gunn [Annu. Rev. Astron. Astrophys. 2020.58:1-25]