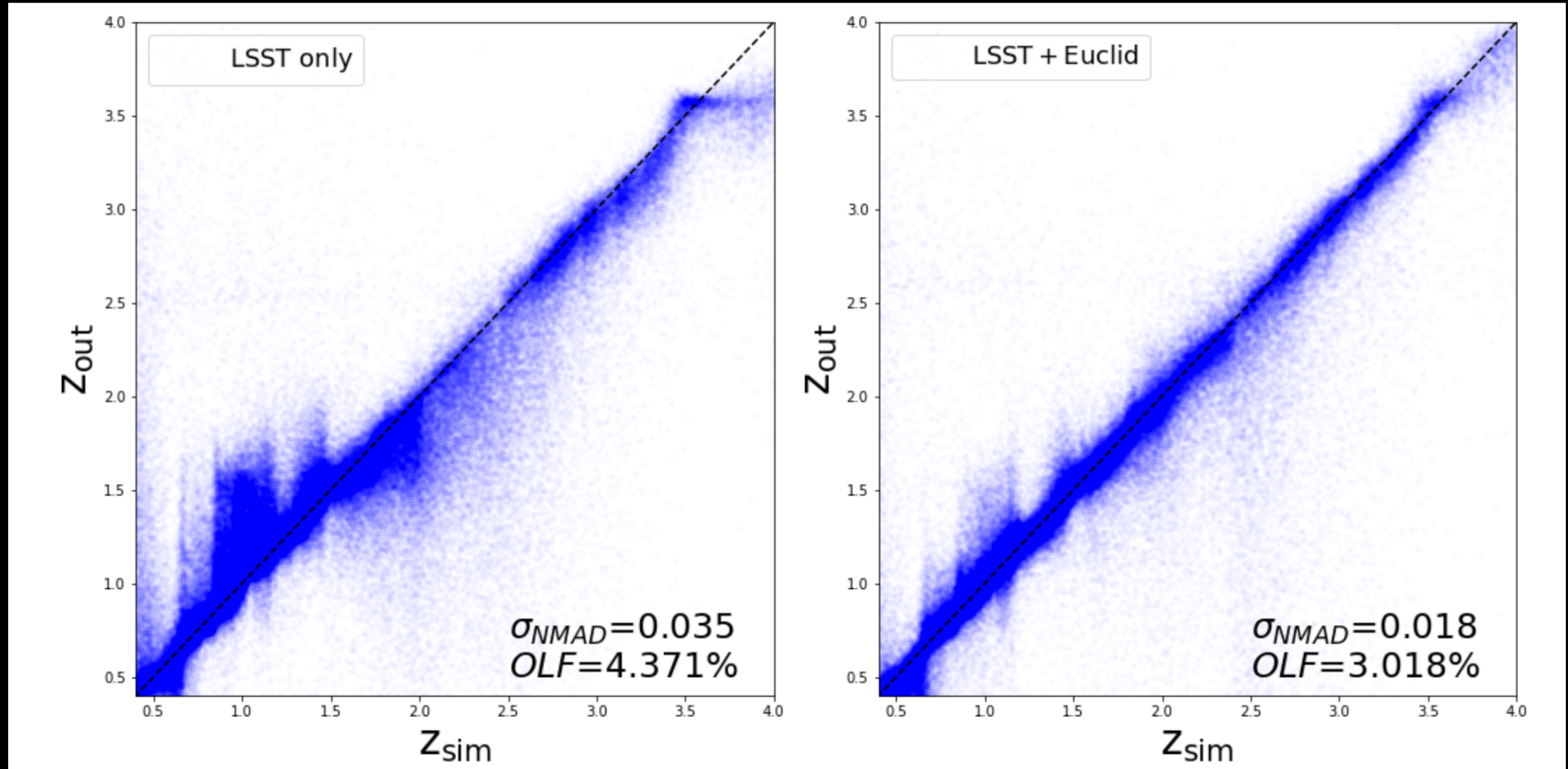




Combining photometry to improve photo-zs and SED fitting

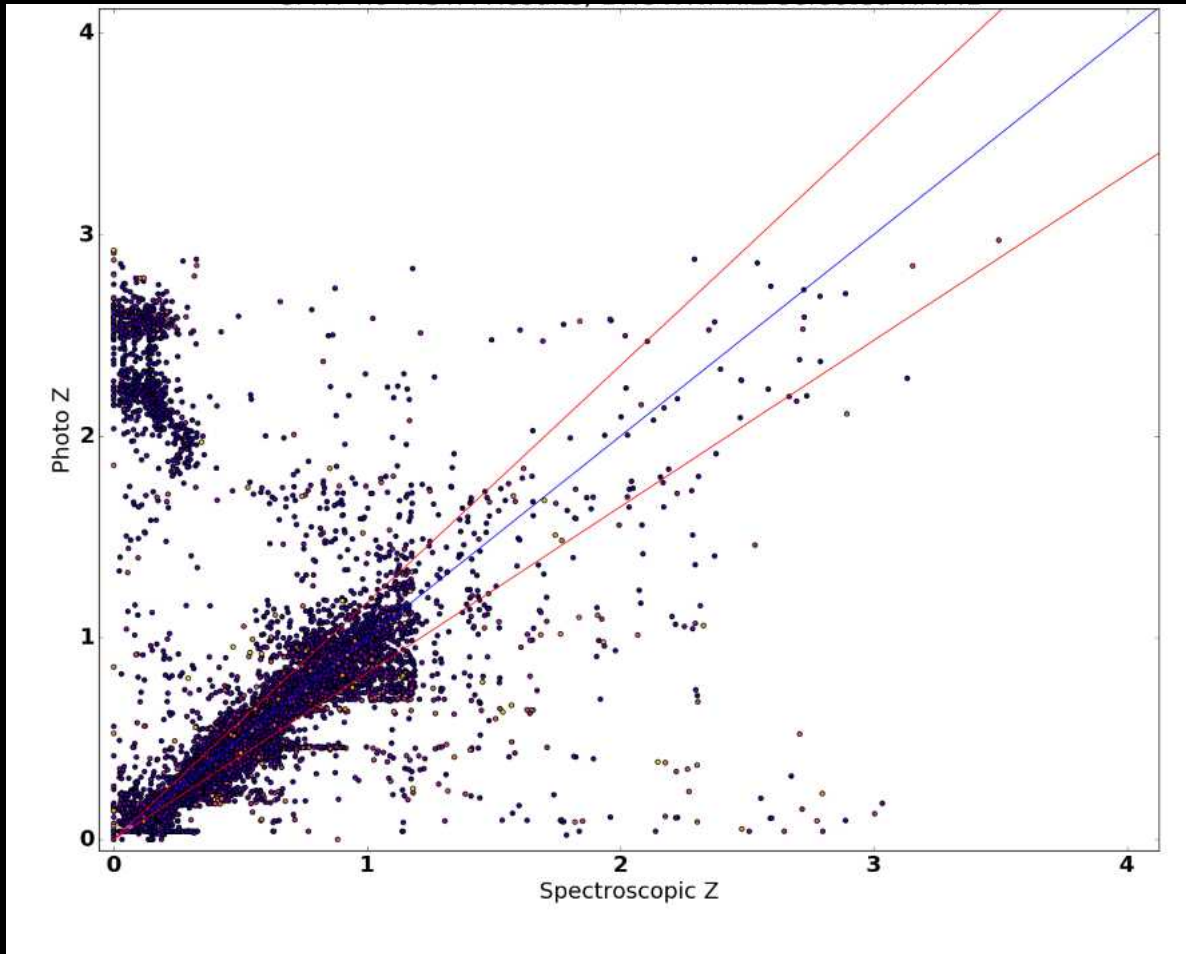
Matt Jarvis
(Oxford & UWC)

Photometric Redshifts - simulation

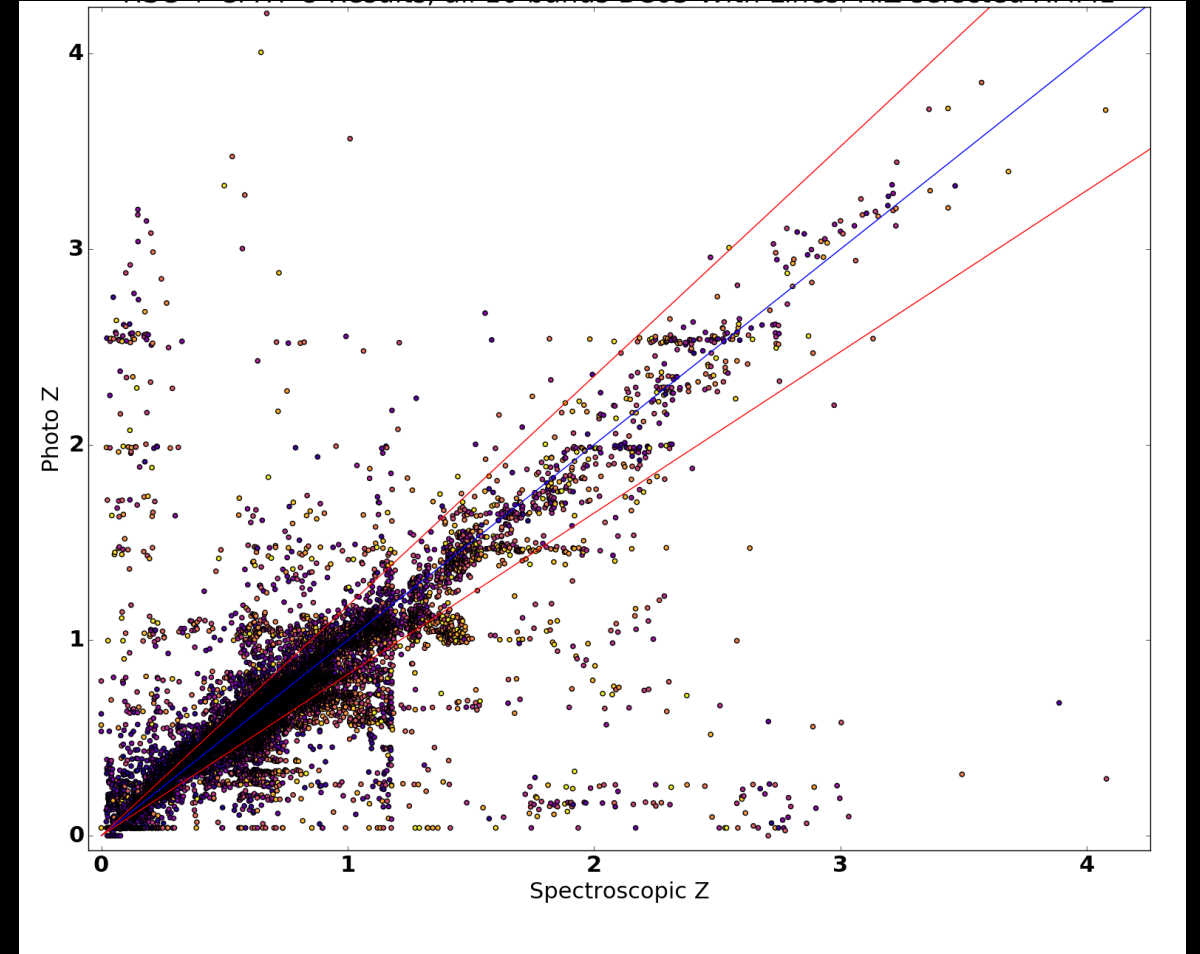


Rhodes et al. 2017

Photometric Redshifts – reality with current data

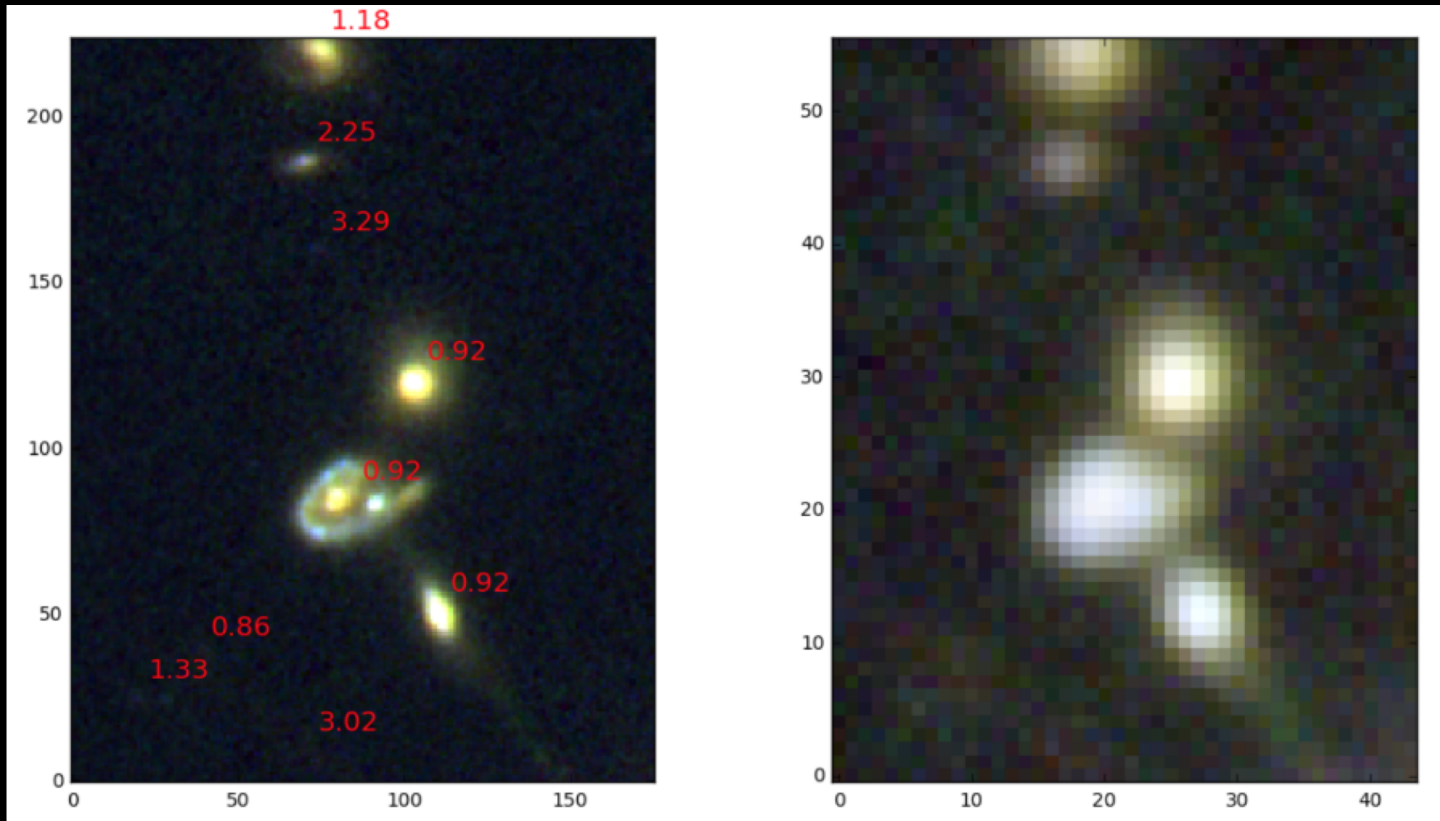


CFHT ugriz



CFHT-u+HSC+VIDEO ugriz+ZYJHKs

How do you combine photometry properly for different resolution data?



Extensions to TPHOT/Tractor etc

- Incorporate SED information – fit for photometry and photo-z jointly?
 - Use deep fields as prior information on wide fields (requires LSST DD field to cover Euclid Deep Field)
- But still want to do forced photometry on Euclid from LSST detections – how?

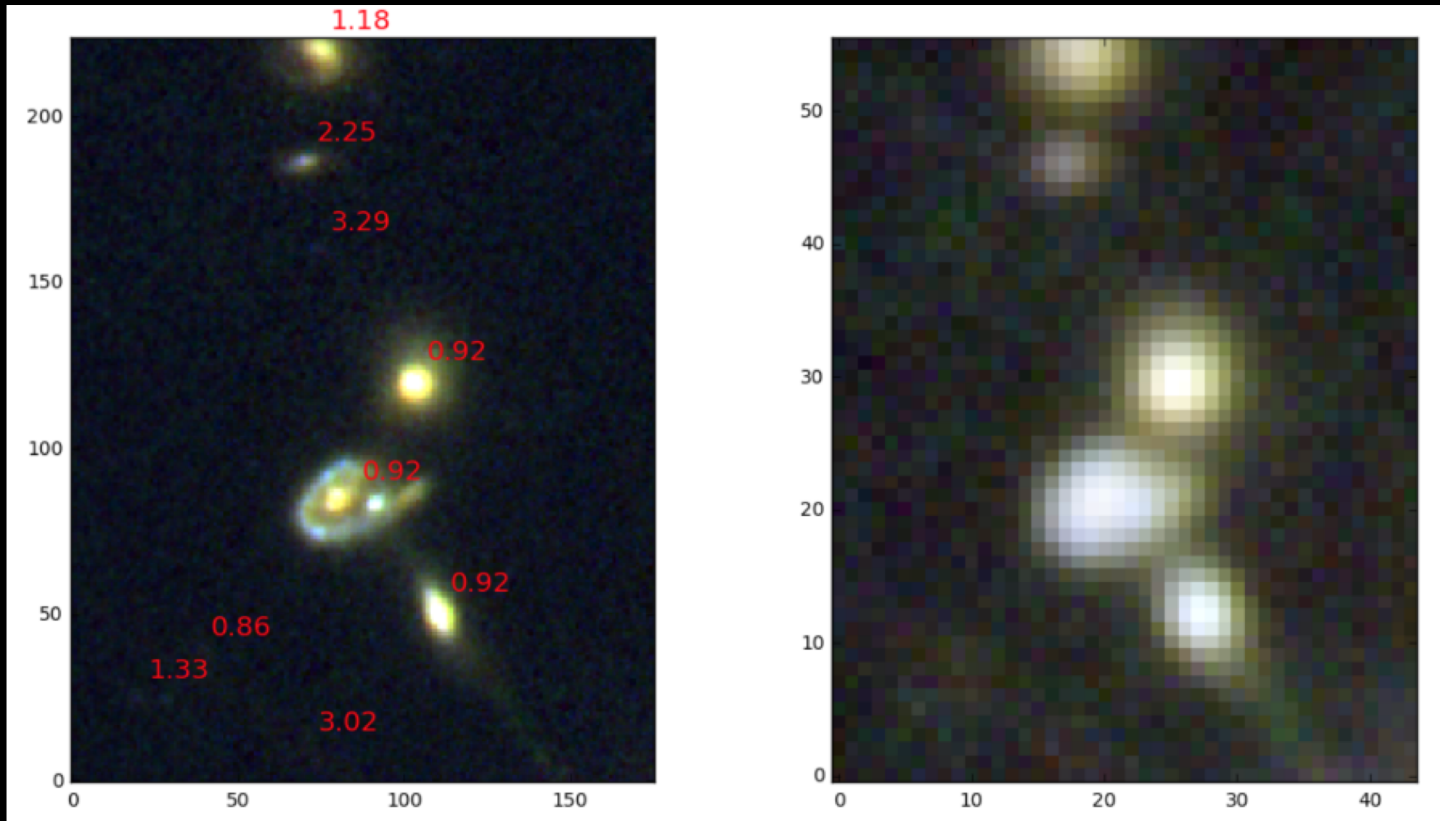
Number of codes already attempt this:

- TPHOT (Merlin et al. 2015, 2016)
- Tractor (Lang et al. 2014)
- MOPHONGO (Labbe et al.)
- LAMBDAR (Wright 2016)
- Or just convolve everything to same resolution (information loss)
- Or throw a deep-learning algorithm at it

Issues:

- Noise properties difficult to deal with as model dependent – (possibly) making photo-zs even more difficult to deal with
- In this case the high-resolution data (Euclid) not as deep as the poorer resolution data (LSST)
- But still want to do forced photometry on Euclid from LSST detections – how?

Using ground-based LSST data to help with understanding colours for Euclid PSF



Also need LSST to help understand the colour of the galaxies that Euclid is using for Weak Lensing (not only for photo-zs)

How best to use the ground based (LSST) information for Euclid?

Calibrations from the Deep drilling fields will be key – lots of other information that can help.