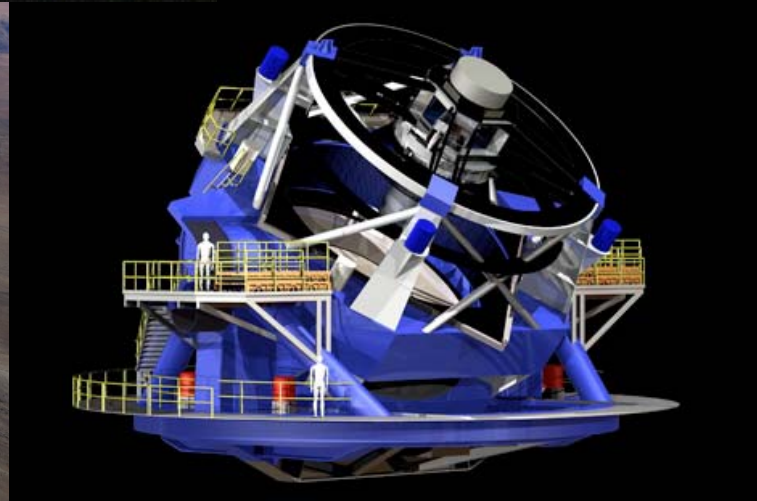
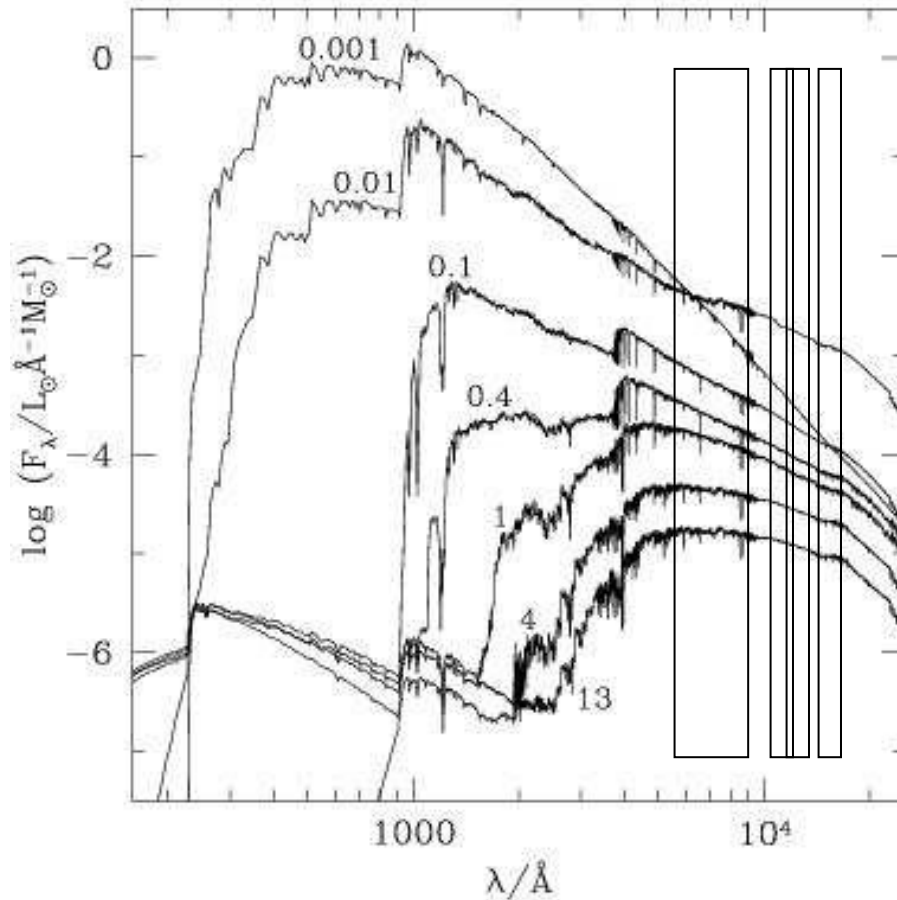


GROUND-BASED IMAGING FOR THE EUCLID MISSION



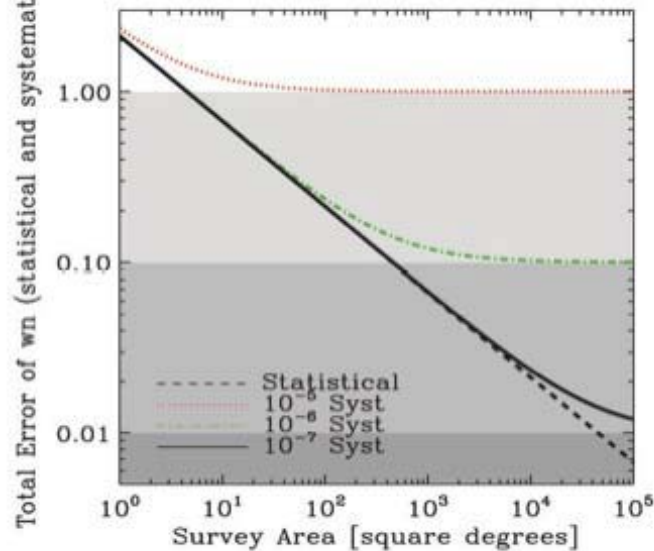
Need for ground-based imaging

- Euclid bands: [RIZ] (very broad), Y, J, H
- Want accurate photz to $I_{AB}=24.5$ ($\delta_{sys} < 0.2\%$!)

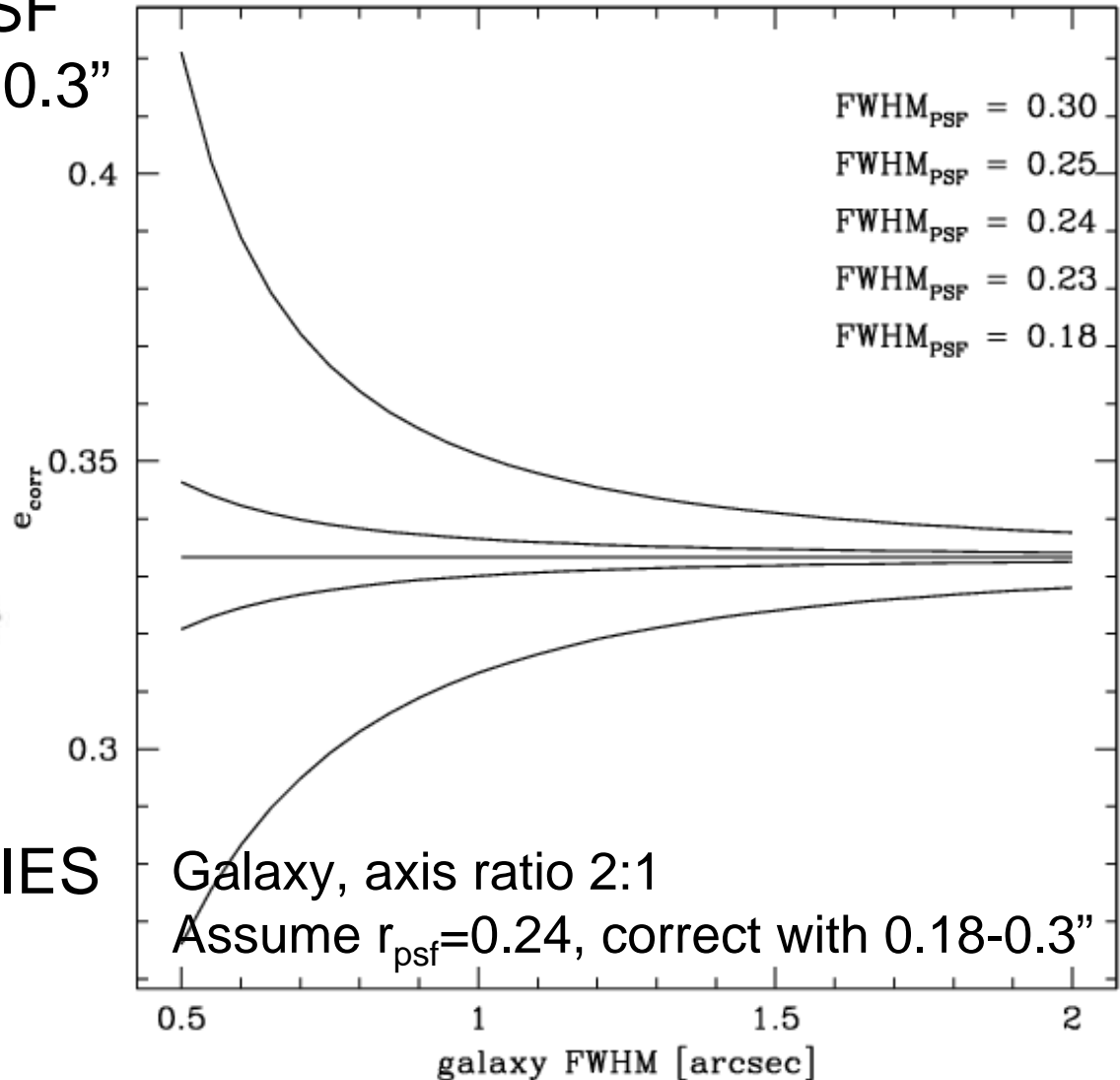


Need for ground-based imaging

- Diffraction limited PSF ranges from 0.18 to 0.3''

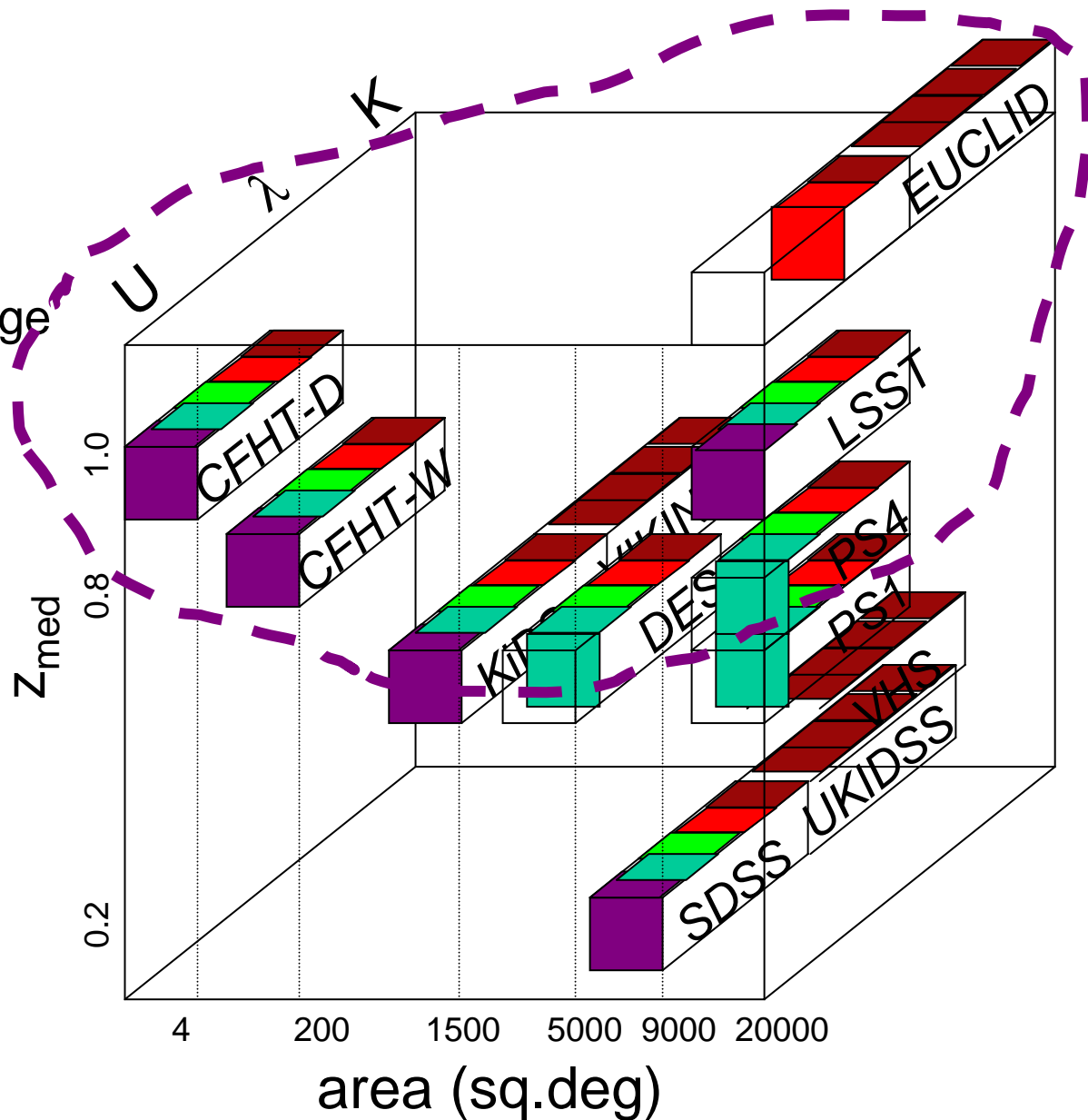


- Need to measure colours (SEDs) of STARS and GALAXIES accurately.



Survey parameters

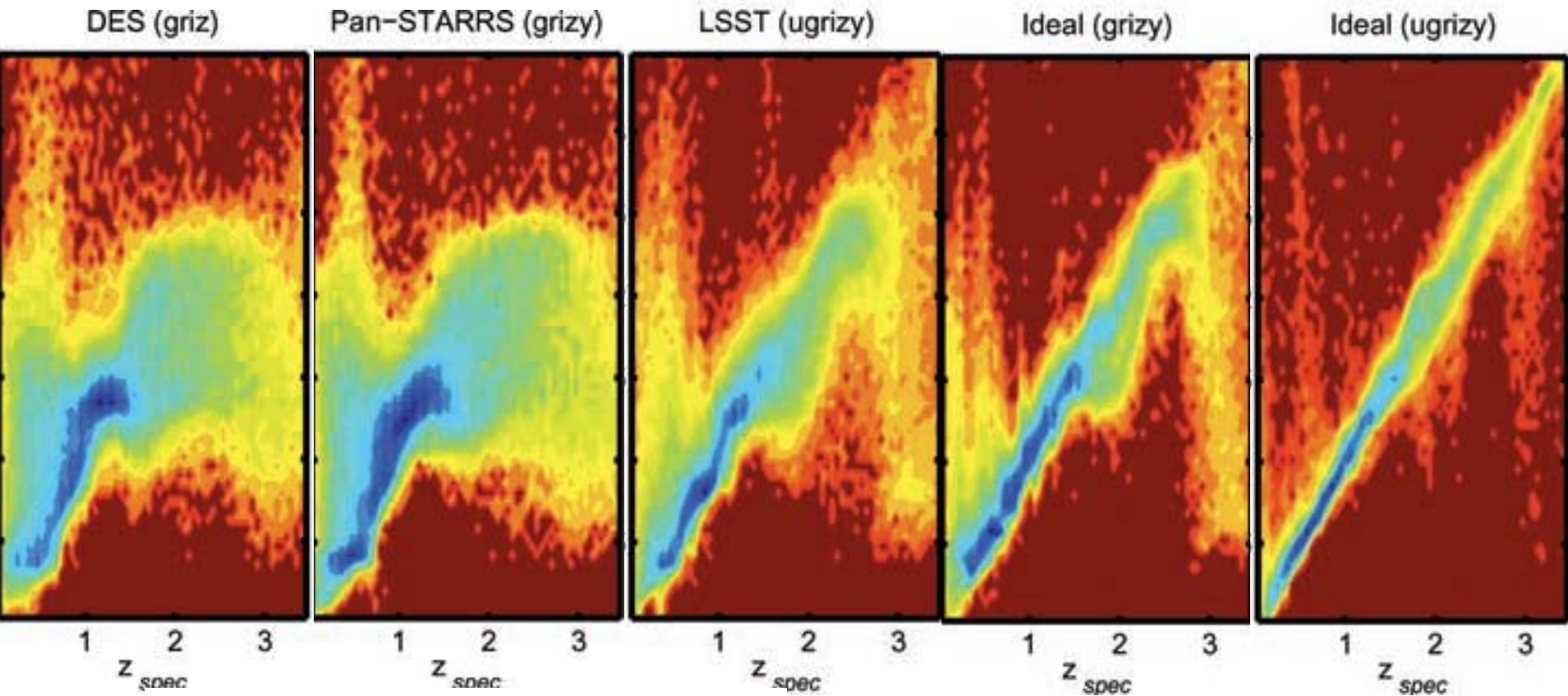
- Area covered
- Median redshift
- Image quality
- Wavelength coverage



Planned Surveys

CFHTLS		ugriz	170	2009
KiDS/VIKING VST+VISTA		ugri ZYJHK	1500	2011-14
PS1-2		grizy	20000	2010-
DES/VHS Blanco+VISTA		griz JHK	5000	2012-16
PS4		grizy ?	20000	?
LSST		ugriz ?	20000	?

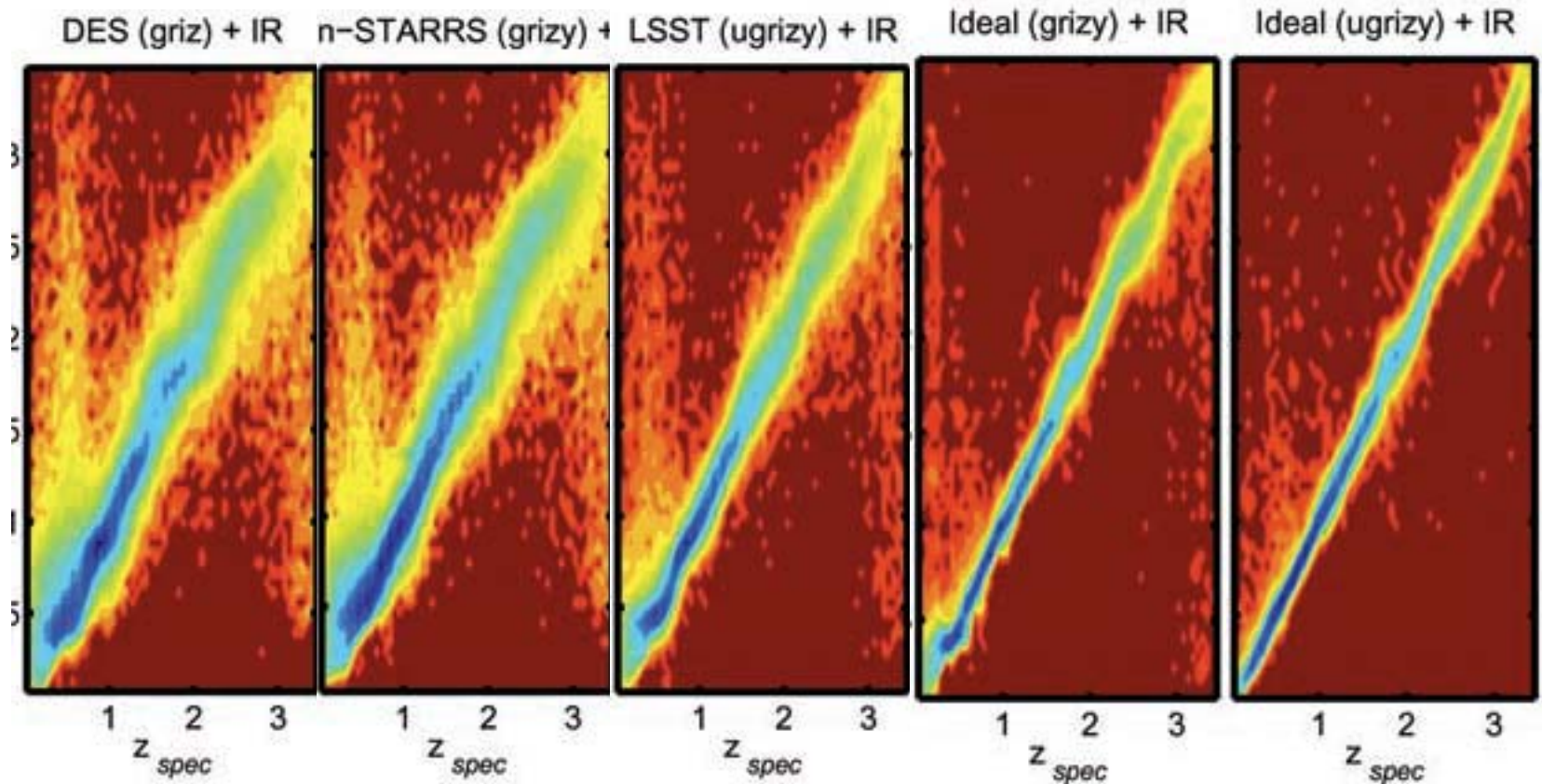
Photo-z's



Band	DES	Pan-4	LSST	Ideal	Ideal + u
u	–	–	23.9	–	26.1
g	24.6	25.9	26.1	26.1	26.1
r	24.1	25.6	27.4	26.1	26.1
i	24.3	25.4	26.2	26.2	25.9
z	23.9	23.9	25.1	25.5	25.5
y	–	22.3	24.3	25.0	25.0

Abdalla + al. (2008)

Photo-z's

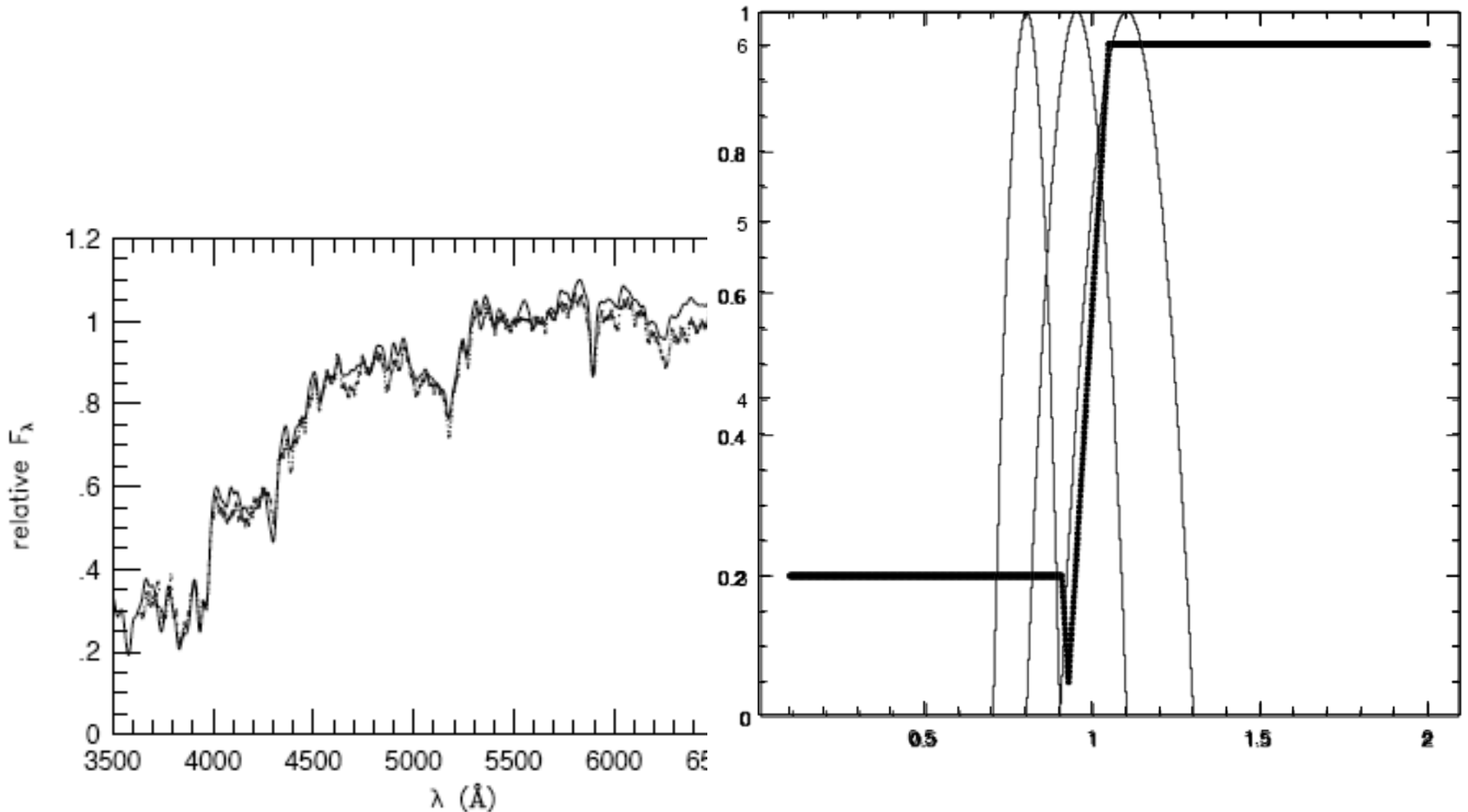


Checking with spec-z
CRUCIALLY important

Abdalla + al. (2008)
Including IR (J & H)
(N.B. no Y band)

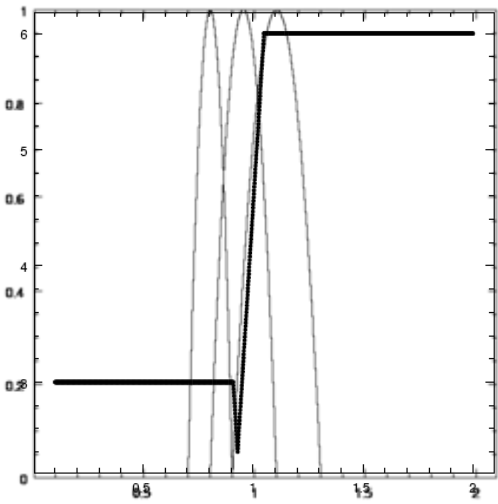
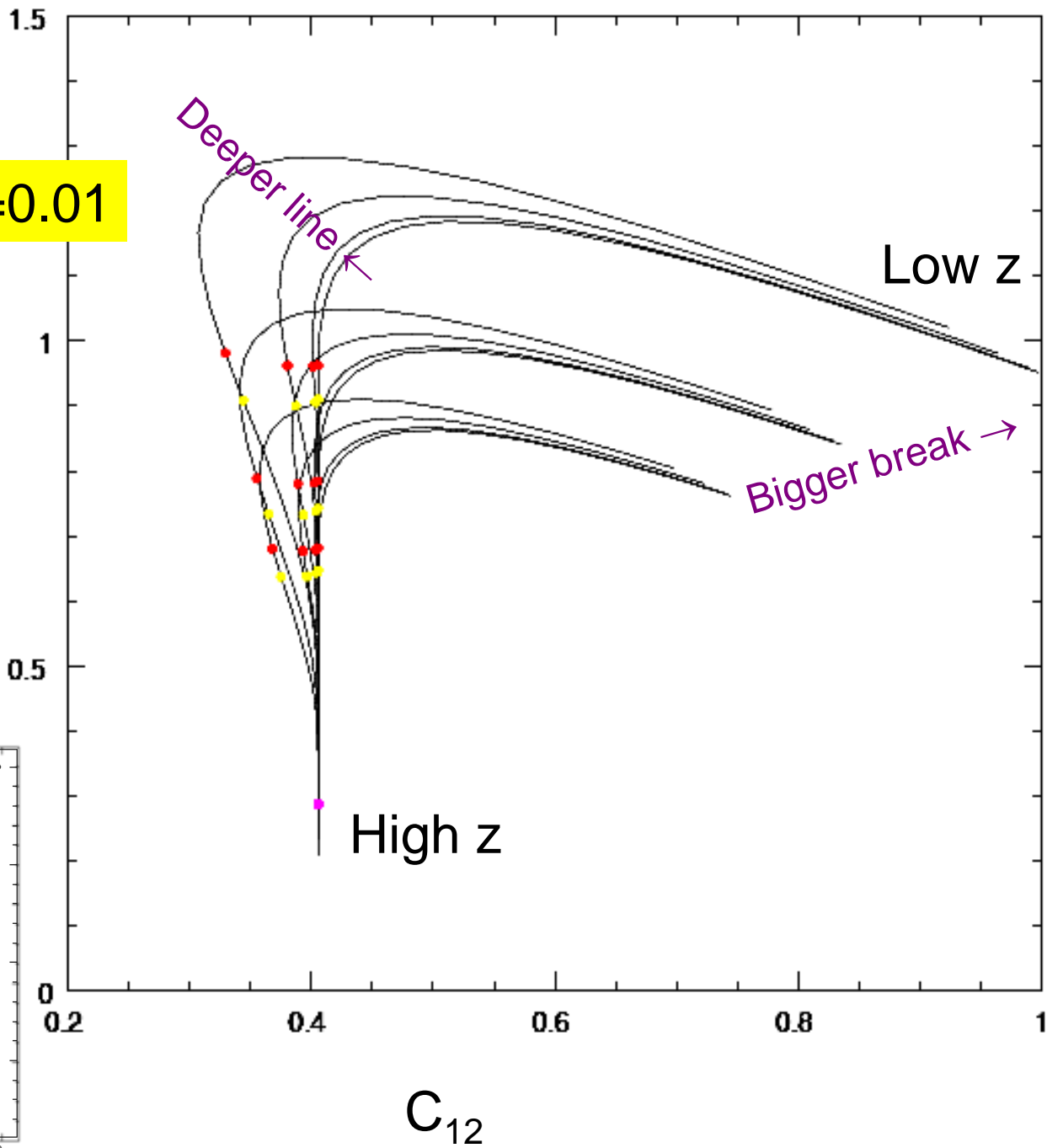
0.1% photo-z precision?

“LSG” survey: simple model for spectral break



Δz (red-yellow)=0.01

C_{23}



Sky coverage from ground

- South: LSST 5000 sqdeg planned
 - Rest:
 - LSST will do the rest?
 - Extend DES survey?
 - VST?
- North: PanStarrs 1-2 30000 sqdeg planned
 - Alternatively:
 - PS4?
 - Subaru HyperSuprime
 - UV with CFHT?

Concluding:

- Ground-based optical colours crucial
 - Photo-z
 - PSF correction
- Goals ambitious
 - Beauty of Euclid mission: possibility for simultaneous cross-checks

