

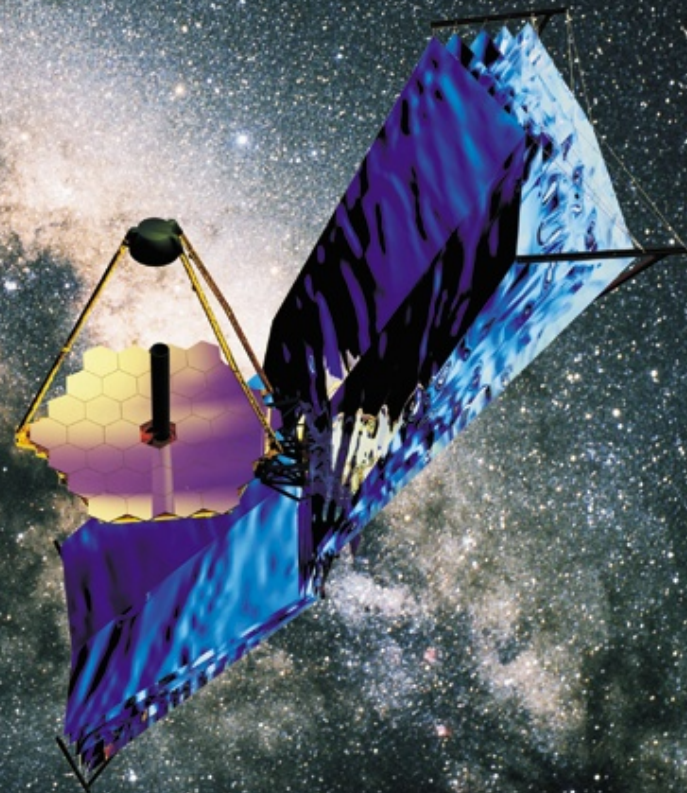
Next generation of large spectroscopic surveys at $z > 1$: a new era

Goals:

- Large volume: Cosmology
- Going deep: First galaxies, reionisation

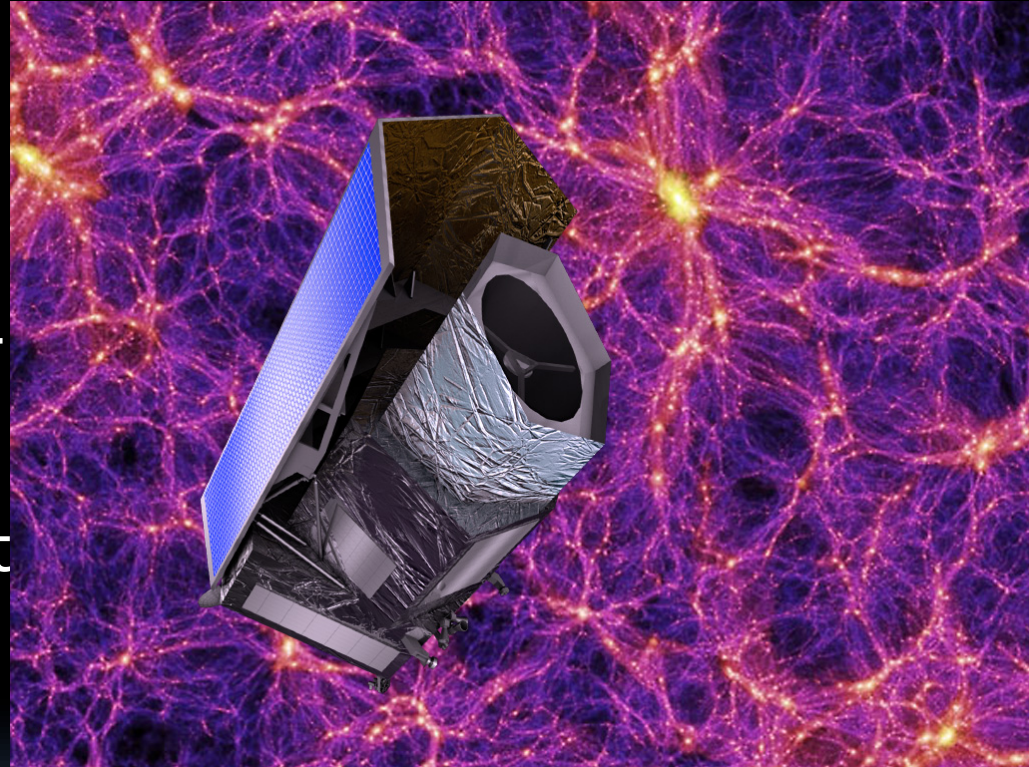
JWST: probing reionisation

- Space telescope
- *Diameter: 6.5m*
- 0.6-25 microns
- Observe first light
- Launch 2018
- Will survey $z > 6$ into the reionisation epoch



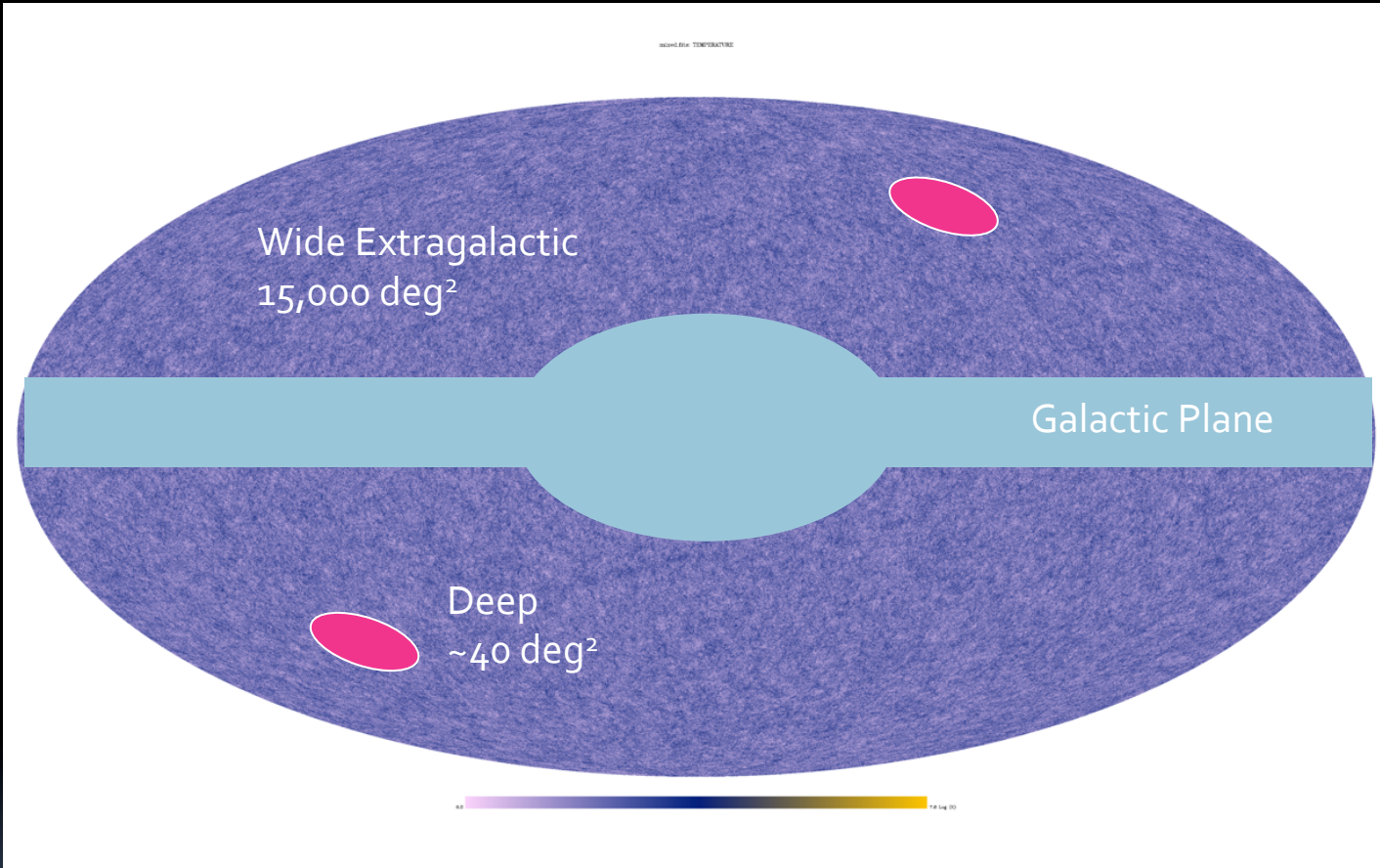
The ESA-Euclid space mission

- ~All sky: 15000 deg²
- The major space cosmology mission for the next decade
- Selected by ESA in Oct 2011
- Launch 2020

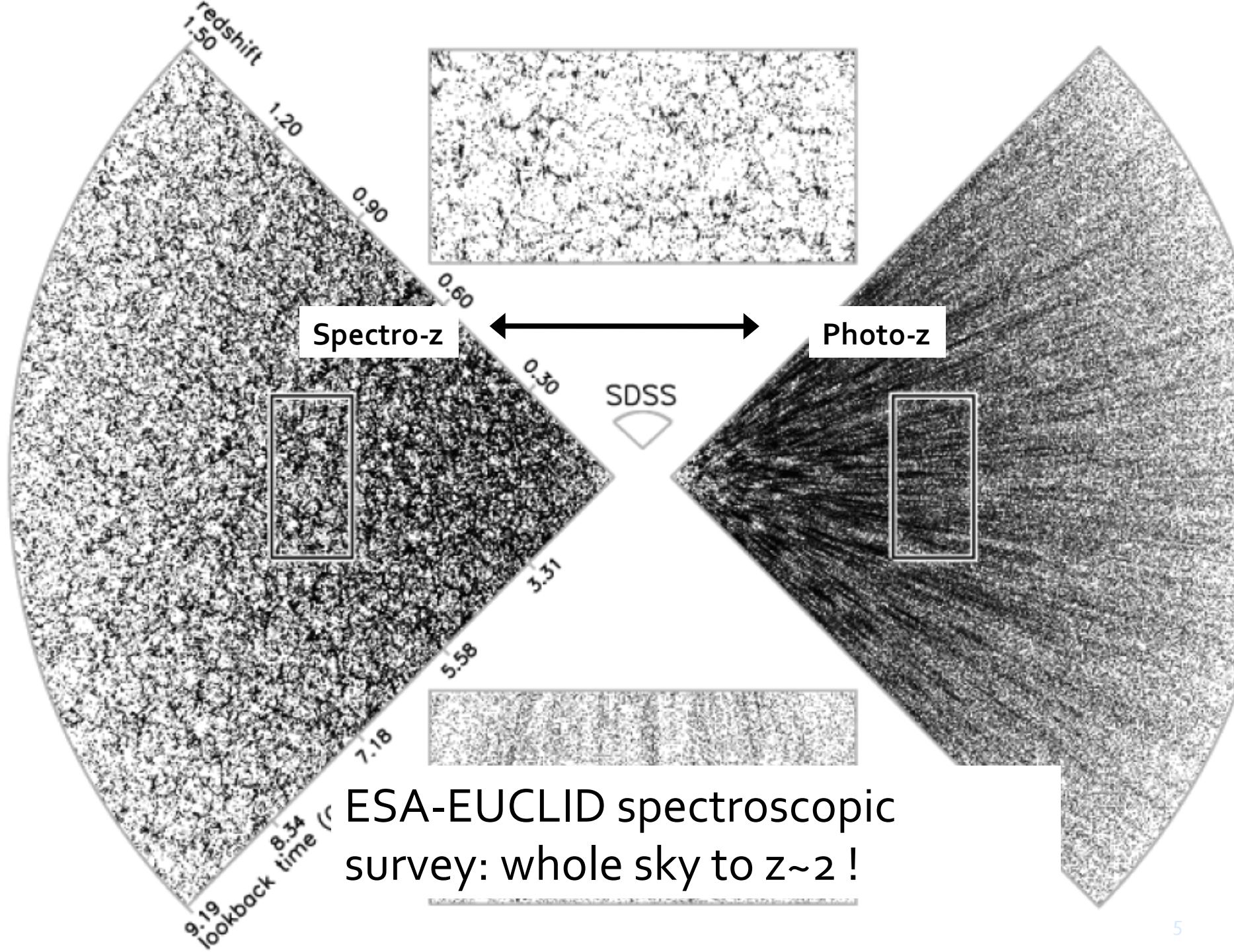


1.2m telescope
Visible + near-infrared
Camera and spectrograph

Euclid “all sky” survey



1 billion galaxy images
40 millions galaxy redshifts
10 Gyr back in the lifetime of the Universe



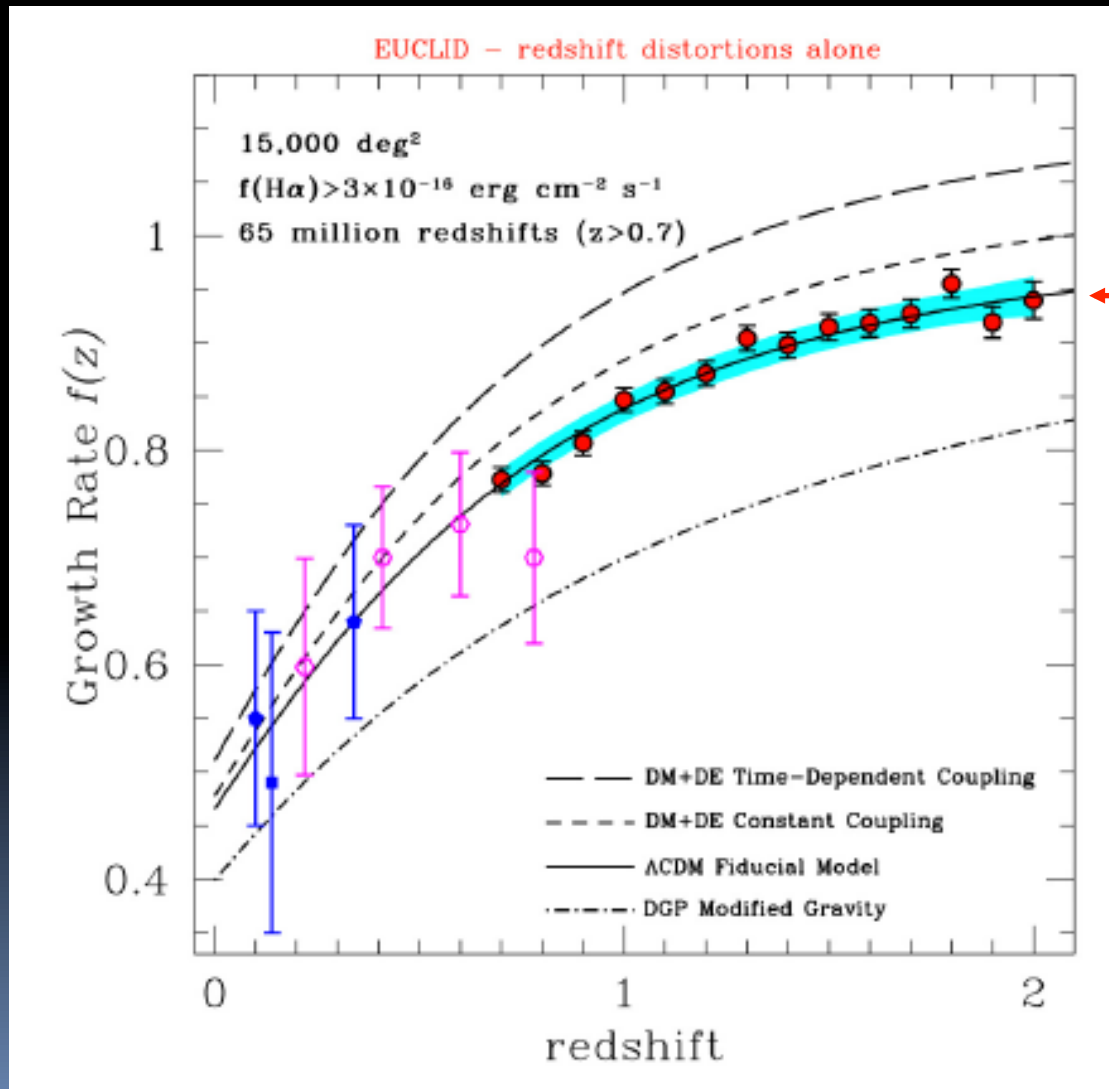
Spectro-z

Photo-z

SDSS

ESA-EUCLID spectroscopic survey: whole sky to $z \sim 2$!

Euclid will probe Gravity growth rate measurement forecast

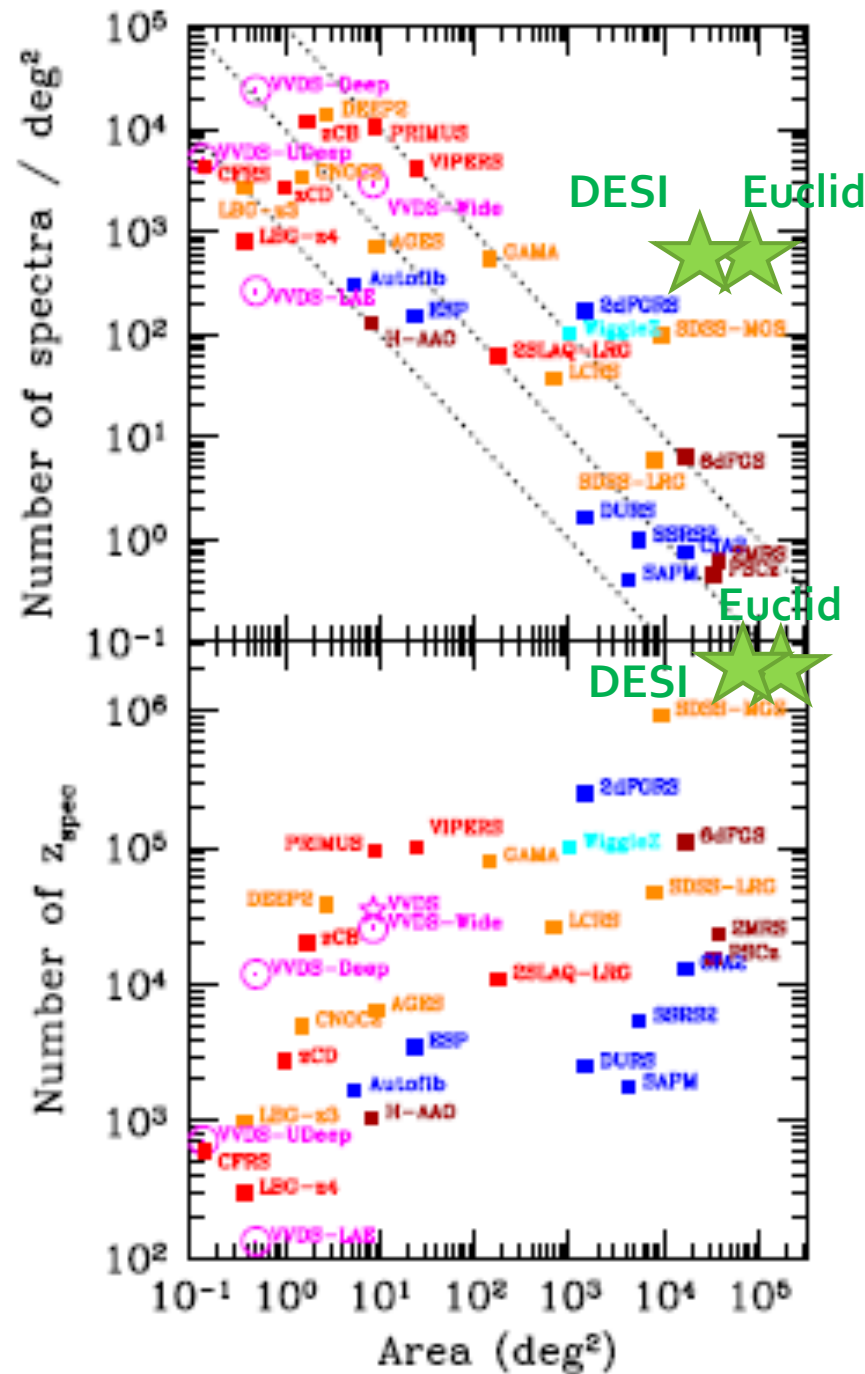


← Modified Gravity
← models

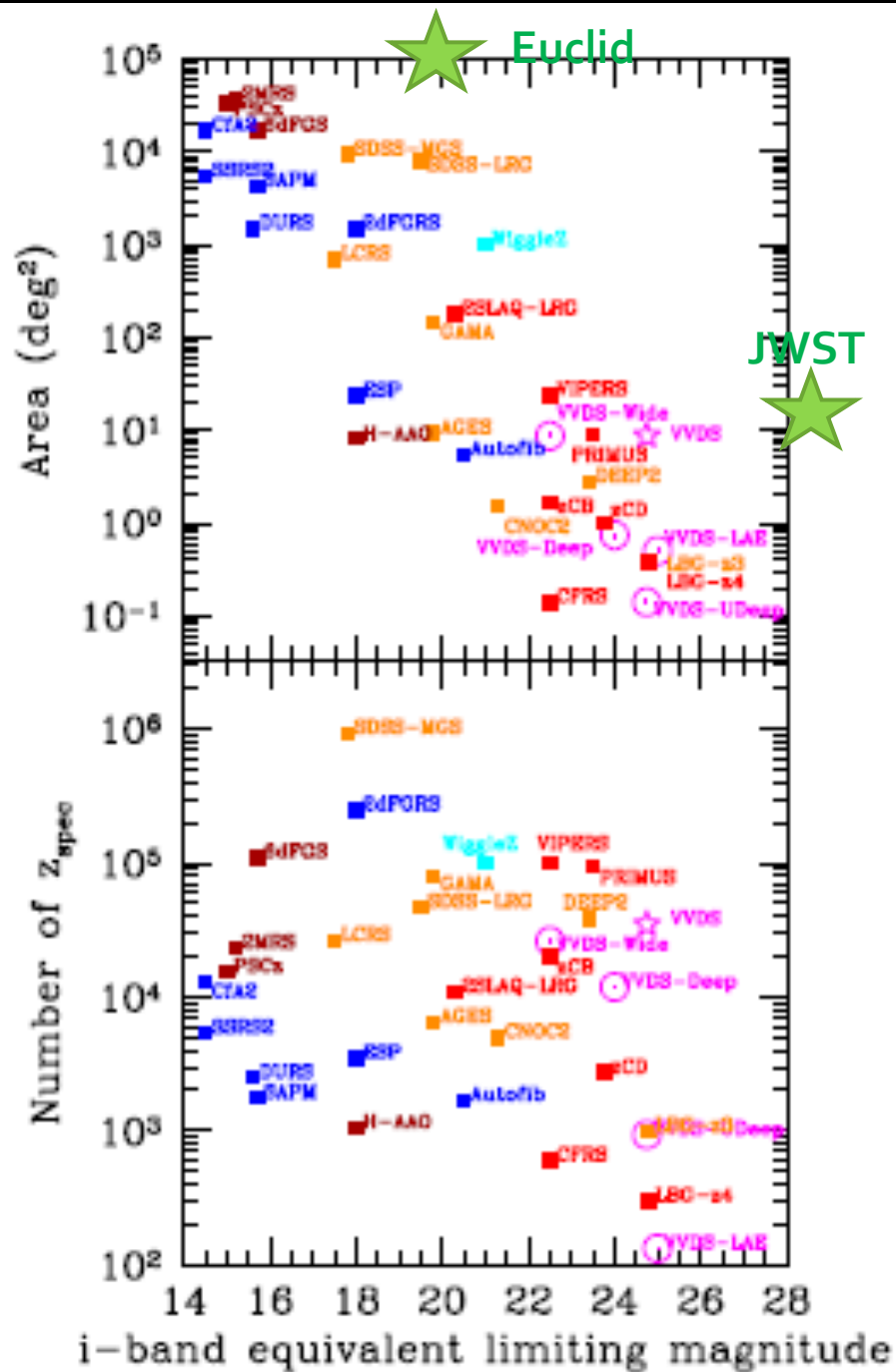
← General Relativity

←

Etendre
l'espace des
paramètres



Etendre
l'espace des
paramètres



Large number of experiments

Name	Telescope	# obj. spectro	Field	Redshift	Survey
SDSS-III BOSS	SDSS 2.5m	1000	2 deg ²	0.5-1	
SDSS-IV eBOSS	SDSS 2.5m	1000	2 deg ²	0.5-1.5	1M
Euclid	1.2m - space	~2000 / field	0.5 deg ²	1-2	40M
DESI	4m Kitt Peak	4000 ?	3 deg ²	0.5-1.5	50M
PFS	8m Subaru	2400	1.5 deg ²	0.5-7	1M
MOONS	8m VLT	500/1000	0.2 deg ²	0.5-7	?
4MOST	4m	2500?	1 deg ²	0.5-1.5	?
JWST	6.5m – space	100	10 arcmin ²	1-N	?
EELT	39m	20-500	50 arcmin ²	0-N	?
WFIRST	2.2m ?	?	?	?	?
HETDEX	10m	100	50 arcmin ²	3	1M
Many other...					

Competition and opportunities !

Preparation fully on-going: participate to science teams !