

FMOS Summary

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- Recalling the unique aspects of FMOS
- Galaxy evolution: key points from our discussion
- BAO/RSD: the FMOS niche
- Further points

Unique aspects of FMOS

Multiplexed IR spectroscopy is not unique to FMOS:

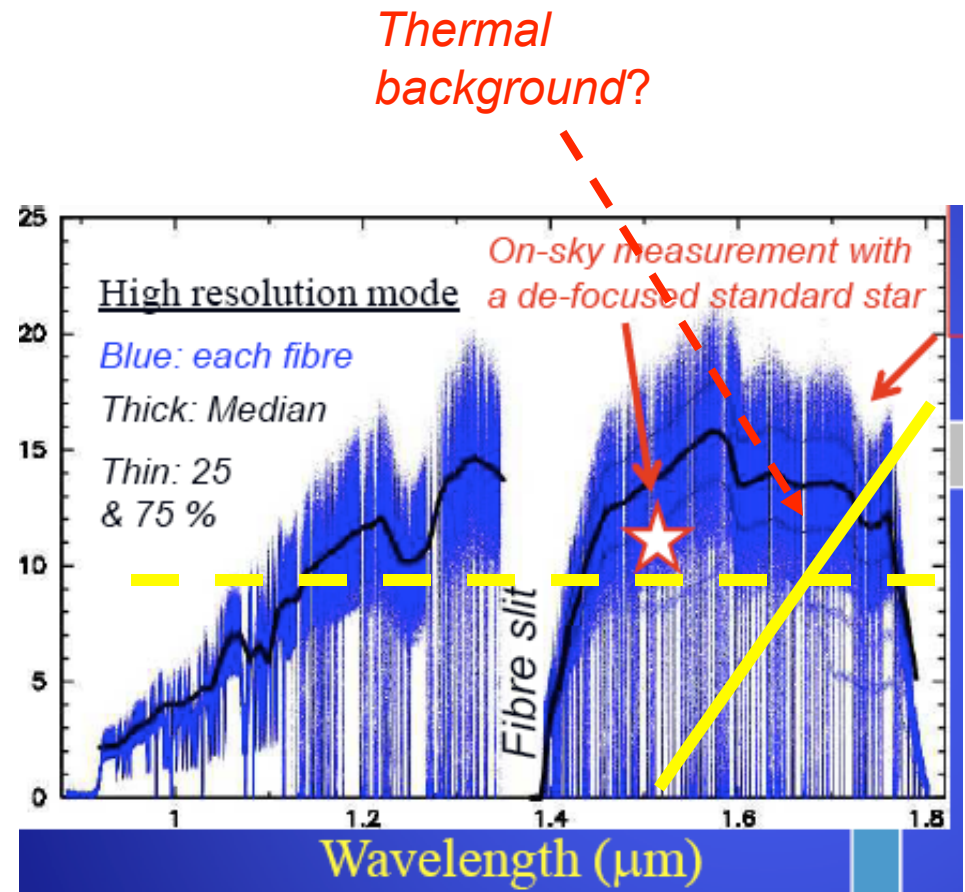
- MOIRCS
- MoSFIRE (2010A)
- KMOS (2011A)

Where FMOS is competitive:

- wide field
- high multiplex
- OH suppression

Where FMOS is not very competitive

- $\lambda\lambda$ coverage ($0.7 < z < 1.6$)
- fibers not slits
- reconfiguration time (15 min)
- continuum sources?

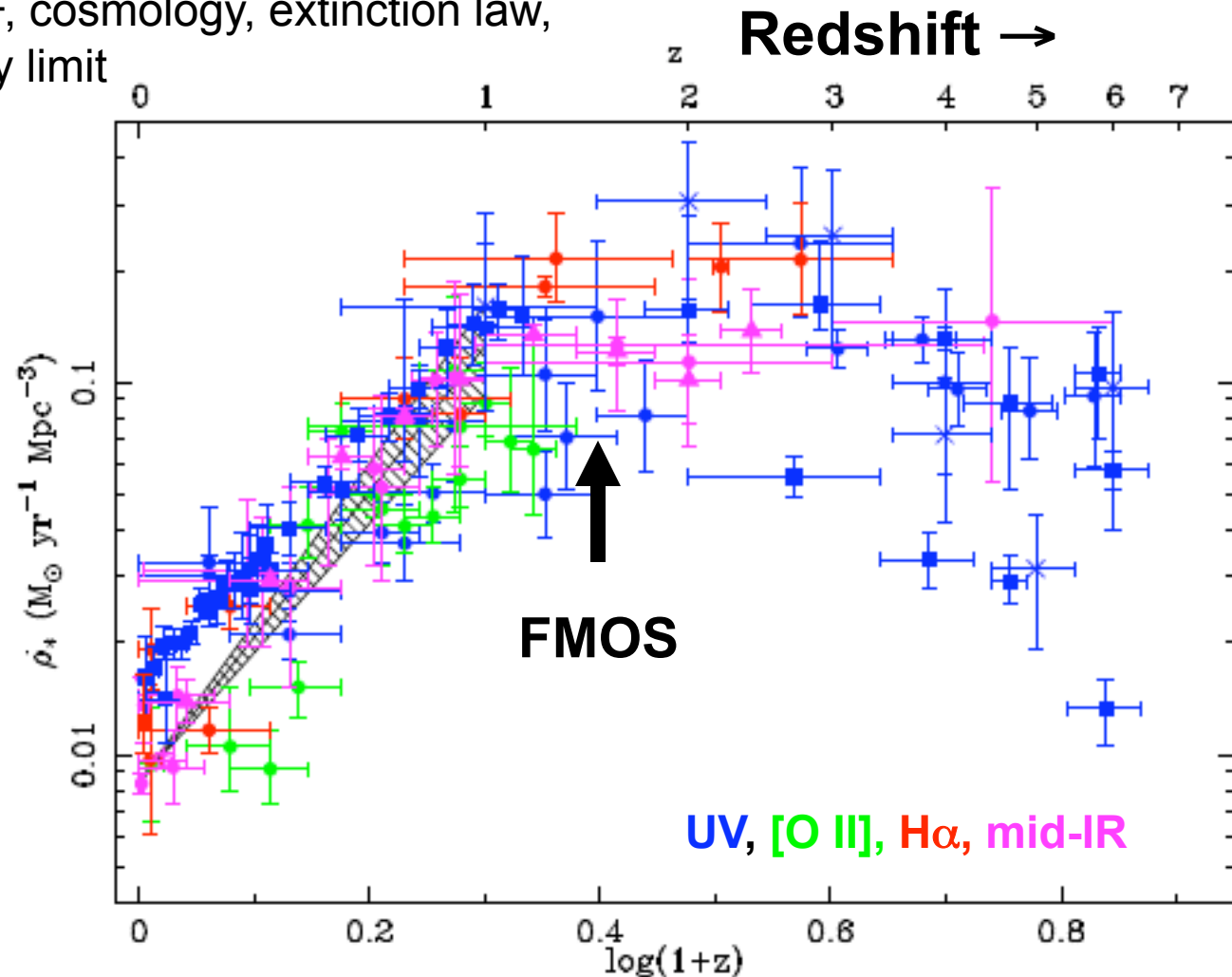


Cosmic Star Formation History

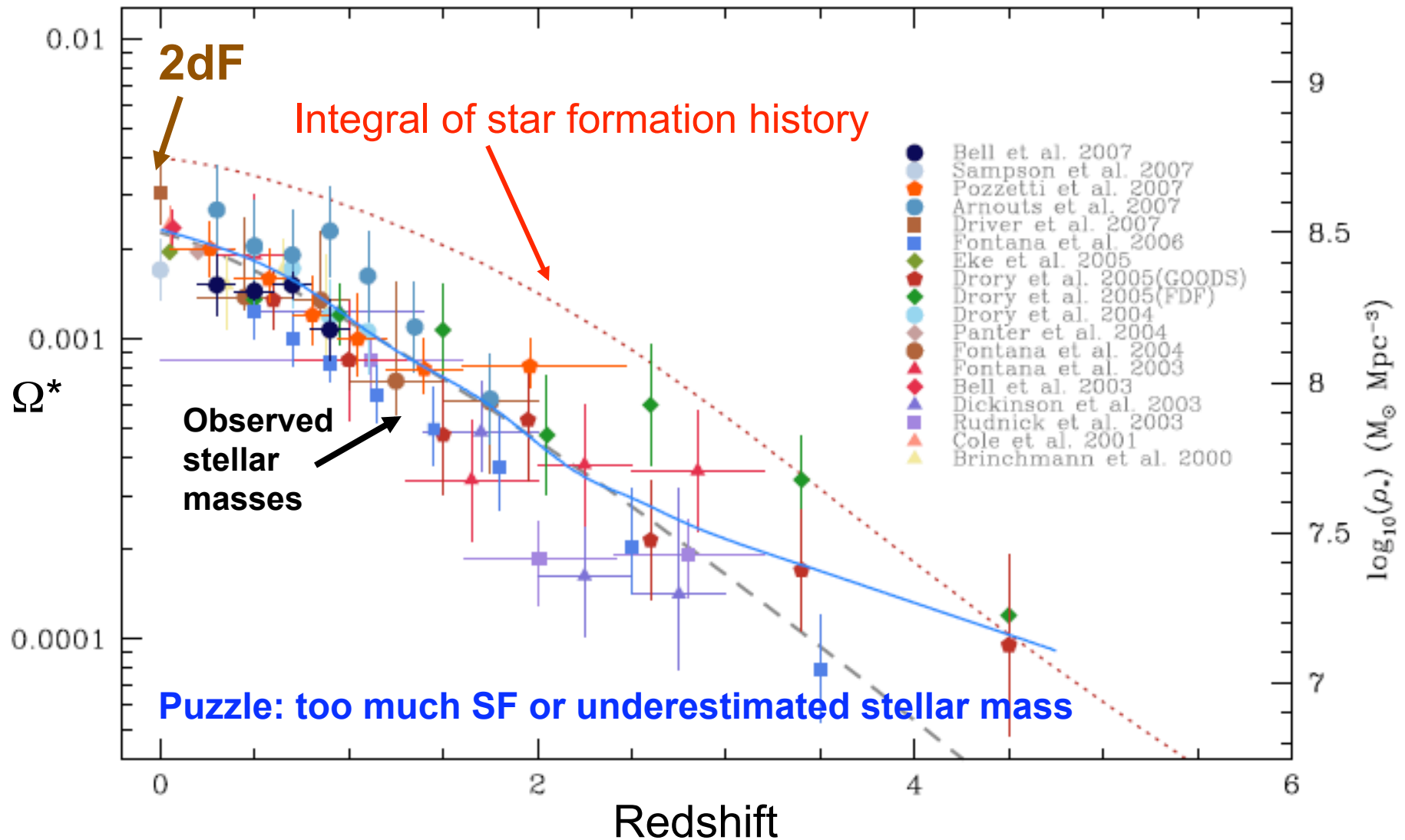
Hopkins (2004), Hopkins & Beacom (2005)

- complementary diagnostics
- standardized IMF, cosmology, extinction law, luminosity limit

Star formation rate per unit comoving volume



Stellar Mass Assembly History



Wilkins et al MNRAS 385, 687 (2008)

Galaxy Evolution Discussion

Obvious and immediate science:

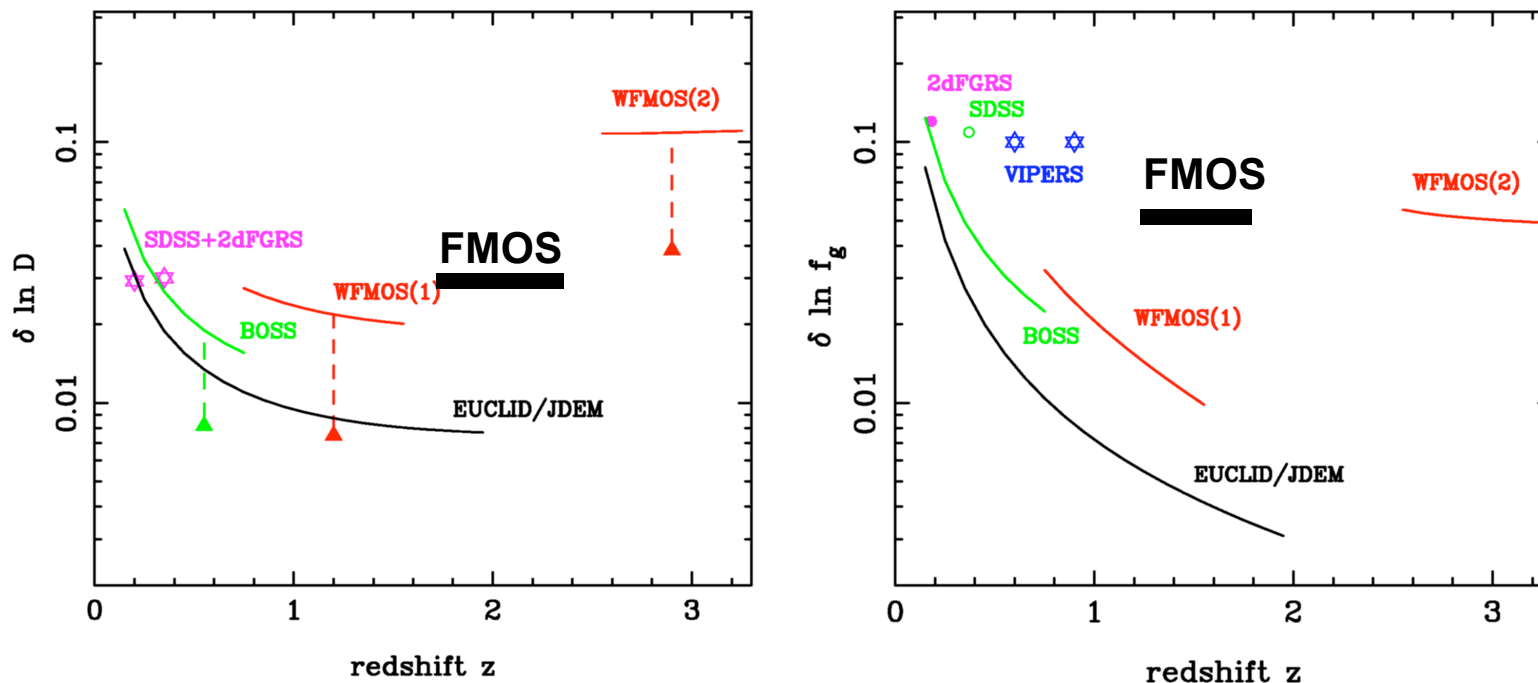
- following known line emitters (HiZELS..)
- adding to existing z surveys (DEEP2 c.f zCOSMOS)

Generic surveys

- Motivated by SF history and mass assembly $z \sim 1.5$; new frontier of evolution in gas phase metallicity
- H-limited survey (wide range of targets and exposure times); worry goal of “completeness” may be unachievable given instrument characteristics; surely preferable to separate emission line and continuum targets
- consider closer synergies with other surveys (leveraging effect)

“Mix and match” surveys: within popular survey fields this is quite practical and can, with care, be sold as a coordinated effort

Cosmology Discussion



- RSD is as exciting scientifically as BAO
- Niche redshift range is $z \sim 1.5$ where FMOS is sensitive; $z \sim 1$ not competitive
- 100,000 galaxies at $z \sim 1.5$ over 30 deg^2 still represent an unique achievement
- If a decision to proceed with WFMOS is made in 2010 it can reach $z \sim 1.5$
- Key problem is target selection *within narrow z range* over $100\text{-}300 \text{ deg}^2$
- most urgent issue! Only CFHT/RSC2 immediate
- In this z range coordination of RSD with galaxy evolution easier

Further Points

- Be realistic about what is possible in remaining engineering/GTO time - can't try everything
- Modest pilot survey essential: targeting suitable range of emission line and continuum sources (e.g. H-limited sample in area where optical spectroscopic data is available?)
- Defer SSP/IPs until 2010/2011
- Be realistic about how much Subaru time is likely to be available in longer term (including UK bonus)
- Decide and start additional survey imaging now
- Although UK is the junior partner it offers unique access to ancillary imaging surveys (LOFAR, Herschel, VISTA, UKIDSS) and optical spectra