STAR FORMATION AND DUST ATTENUATION ON THE MAIN SEQUENCE OF STAR-FORMING GALAXIES UP TO REDSHIFT 4

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and the CANDELS/GOODS-Herschel folks

TAKE HOME POINTS

The MS is the main mode of stellar mass growth

Scatter and slope are basically constant over cosmic time

UV slope vs. Auv is evolving with redshift

The A_{UV}-M_* is only mildly evolving with redshifts

References:
(Pannella et al., 2014)
(Schreiber, MP et al., 2015)

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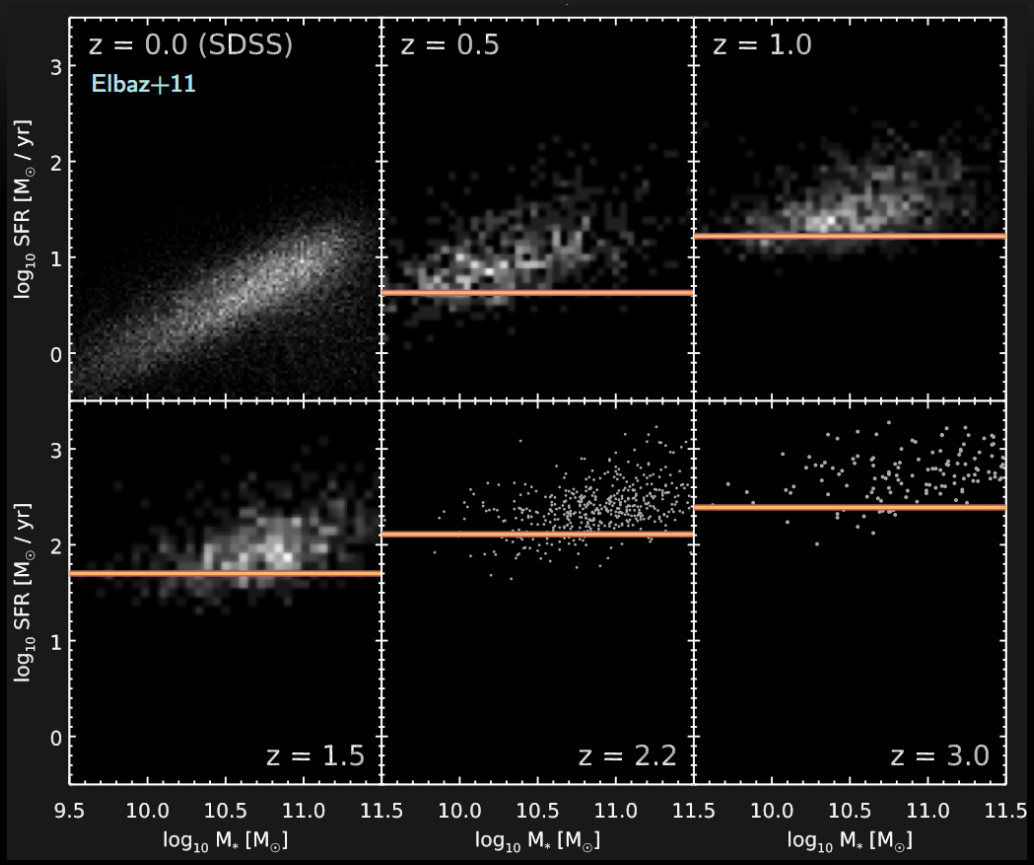
NORMAL GALAXIES AT HIGH REDSHIFT



(Schreiber, MP et al., 2015)

The deepest IR images of the sky

GOODS-Herschel, CANDELS+Herschel, PEP
P.I.s D. Elbaz, M. Dickinson, D.Lutz

About 5000 Herschel detections

CANDLES-HST multi wavelength database

About 100000 H band galaxies [< 27 mag]

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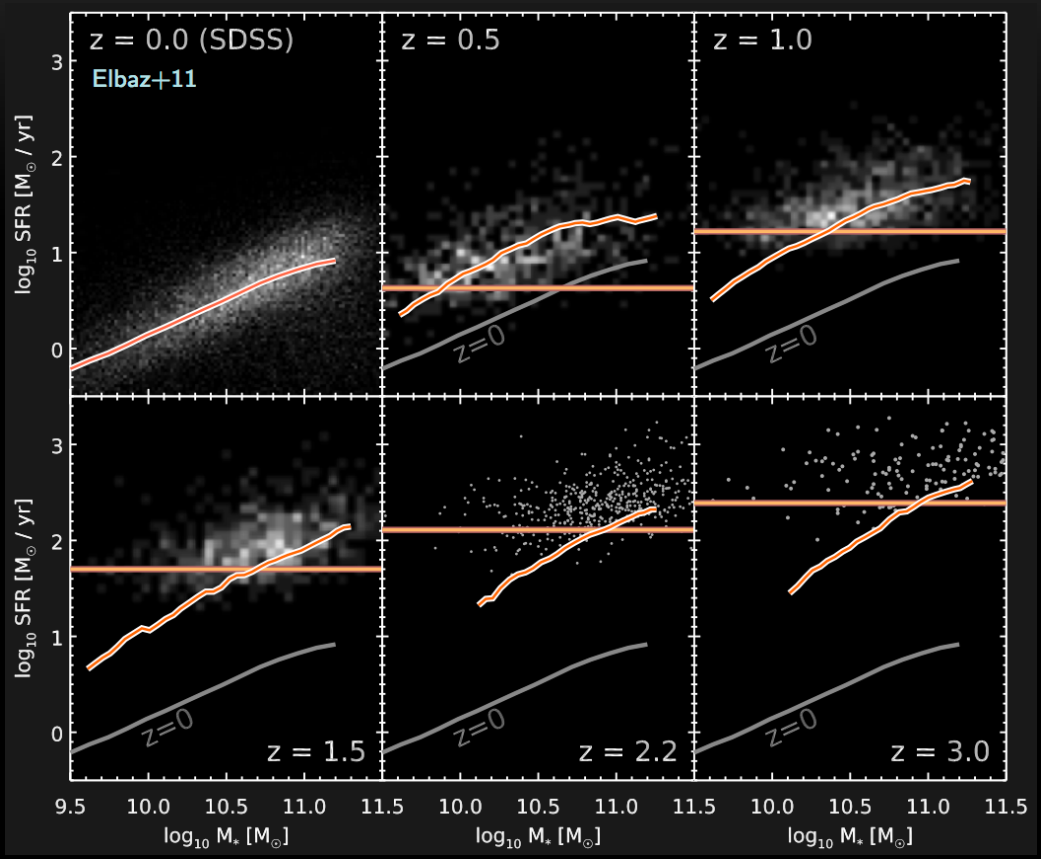

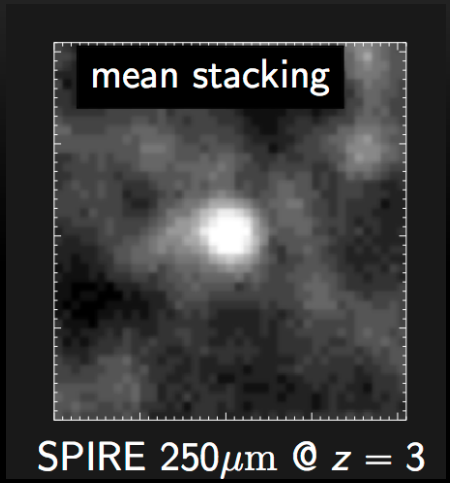

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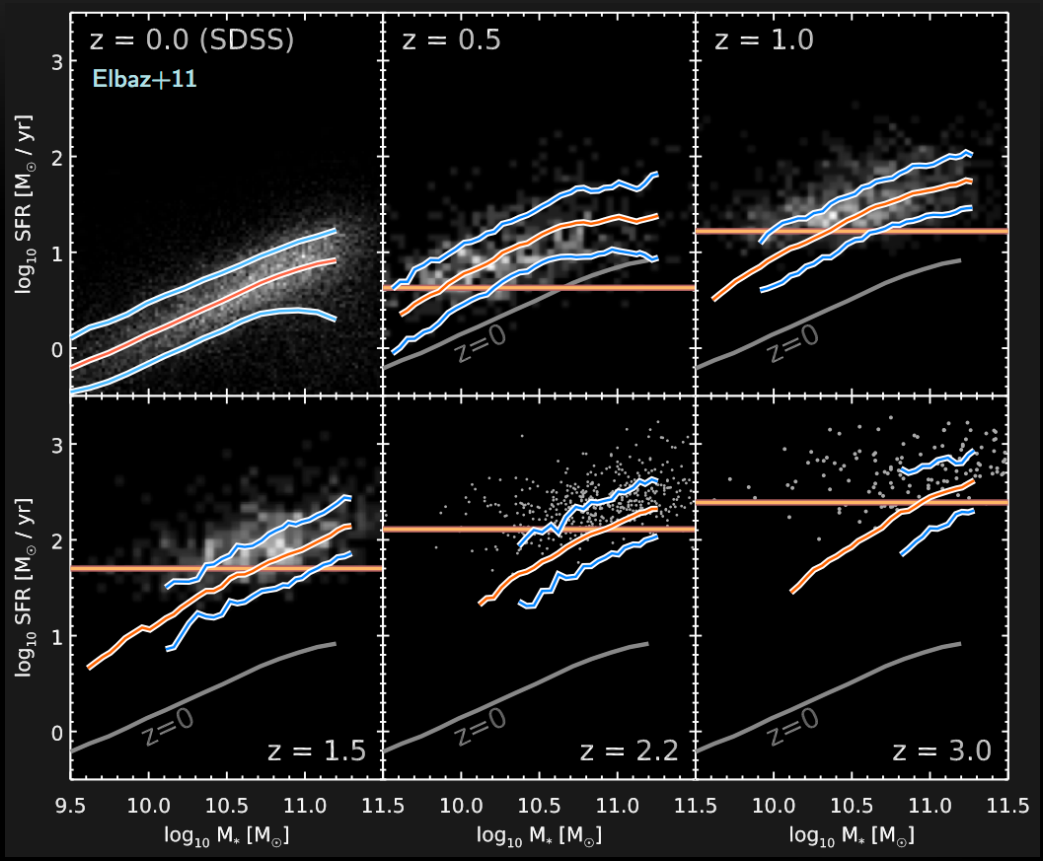

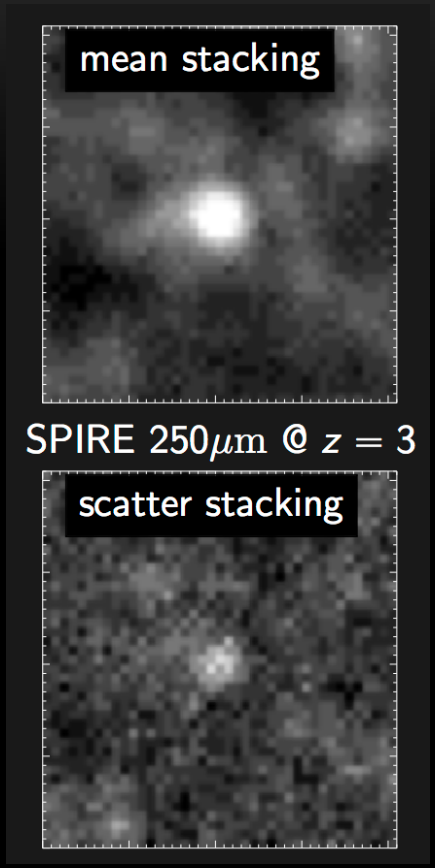

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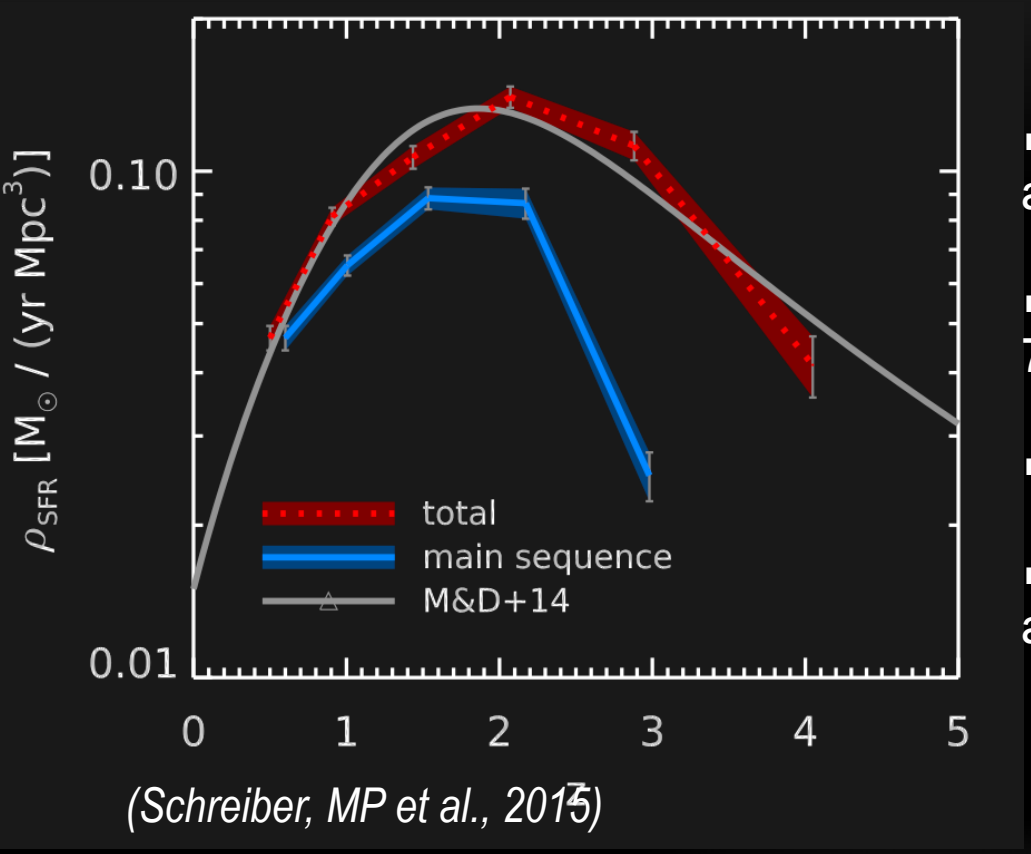

(Schreiber, MP et al., 2015)

- Scatter is ~0.3 dex at all stellar masses and all redshifts up to z~3
- Galaxies on the MS produce more than 70% of present day stars
- The Main Sequence is REAL and …
- it is the dominant mode of star formation at least up to z ~3

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DUST ATTENUATION UP TO Z~4

$A_{UV} = 2.5 \text{ LOG } (SFR_{IR}/SFR_{UV} + 1)$

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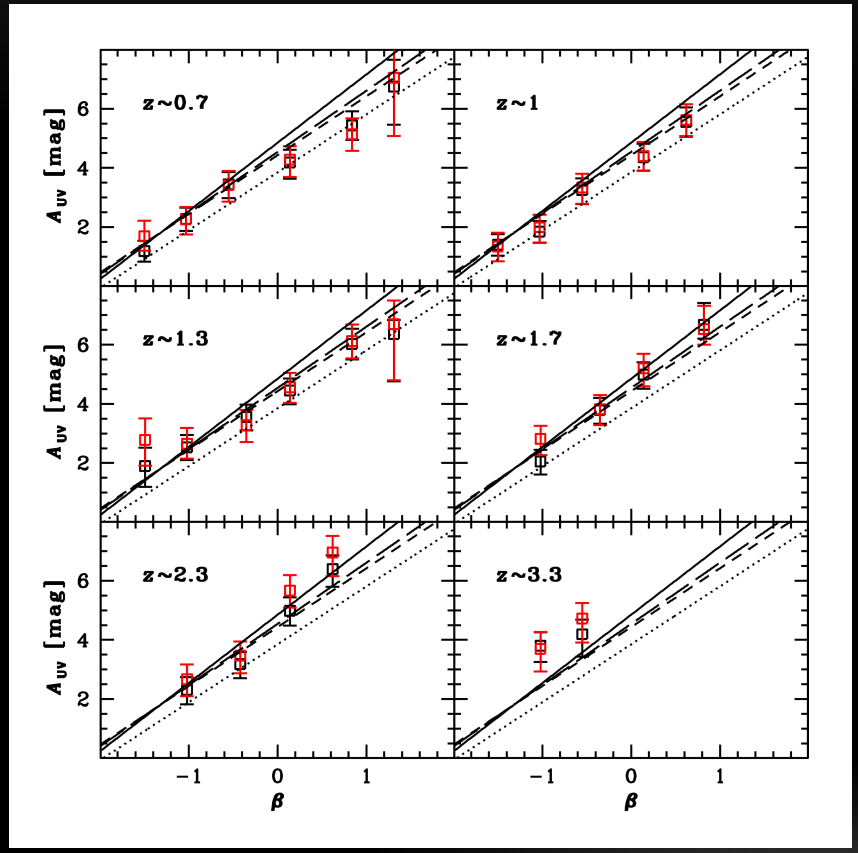

– the correlation between dust attenuation and UV slope evolves with redshift

– UV spectra becomes bluer and bluer with redshift

-- good agreement at 1 < z < 3

(MP et al., 2014)

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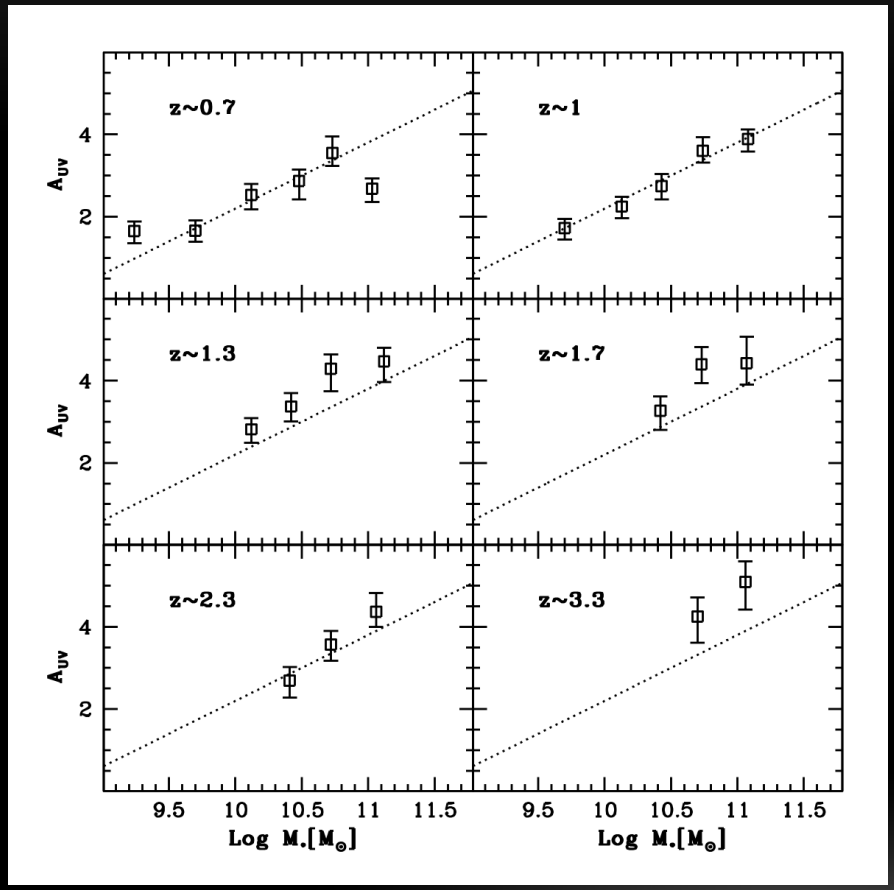

(MP et al., 2014)

— The correlation between M_* and A_{UV} does not evolve much up to z~4

— The same amount of SFR is less attenuated at higher redshift

THANKS FOR YOUR TIME !

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