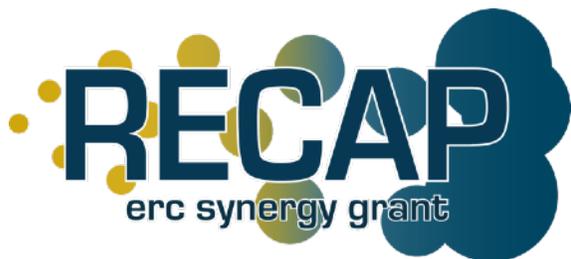


Connecting absorbers & emitters along high-z quasar sightlines

Manuela Bisognetti
23-01-2026



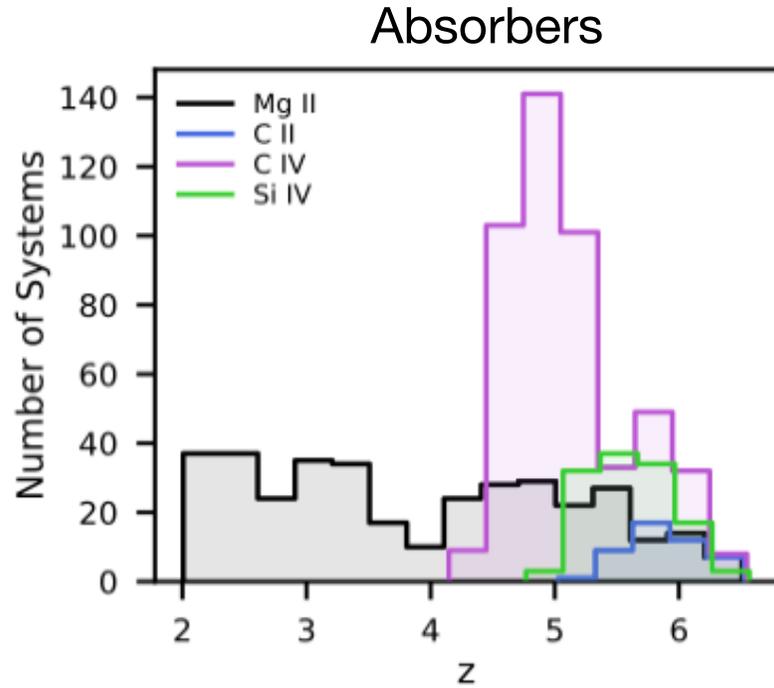
This work is supported by the ERC grant
RECAP under grant agreement No
101166930



European Research Council
Established by the European Commission

Emitters-absorbers connection along quasar los

E-XQR30 sample (D'Odorico+2023,
Davies+2023, Sebastian+2024)



JWST



34 quasars with JWST/NIRSpec
IFU spectroscopy
+ NIRCам slitless spectroscopy

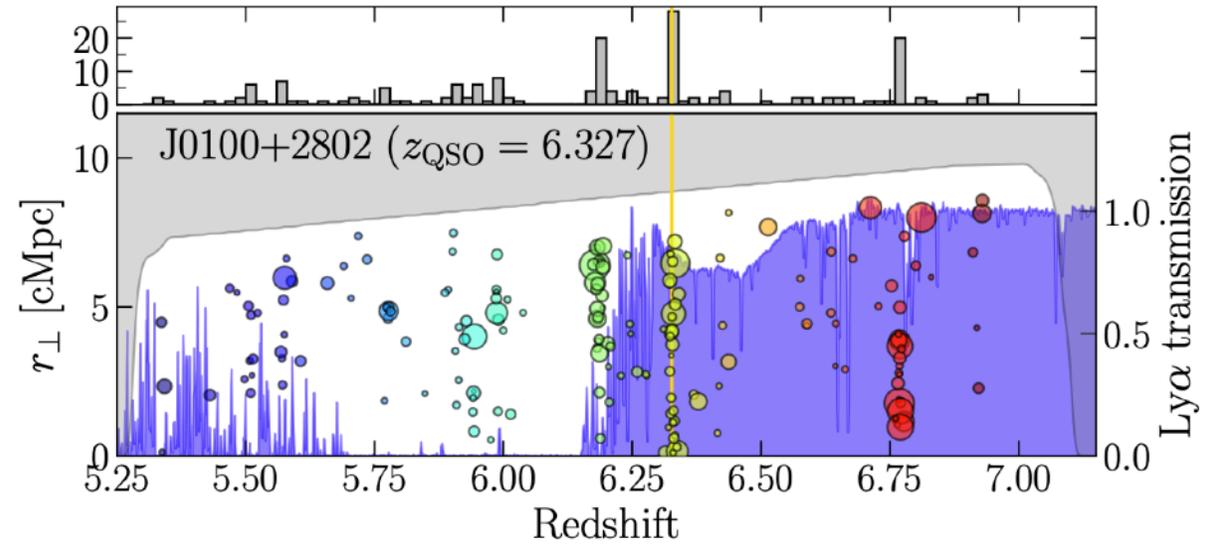
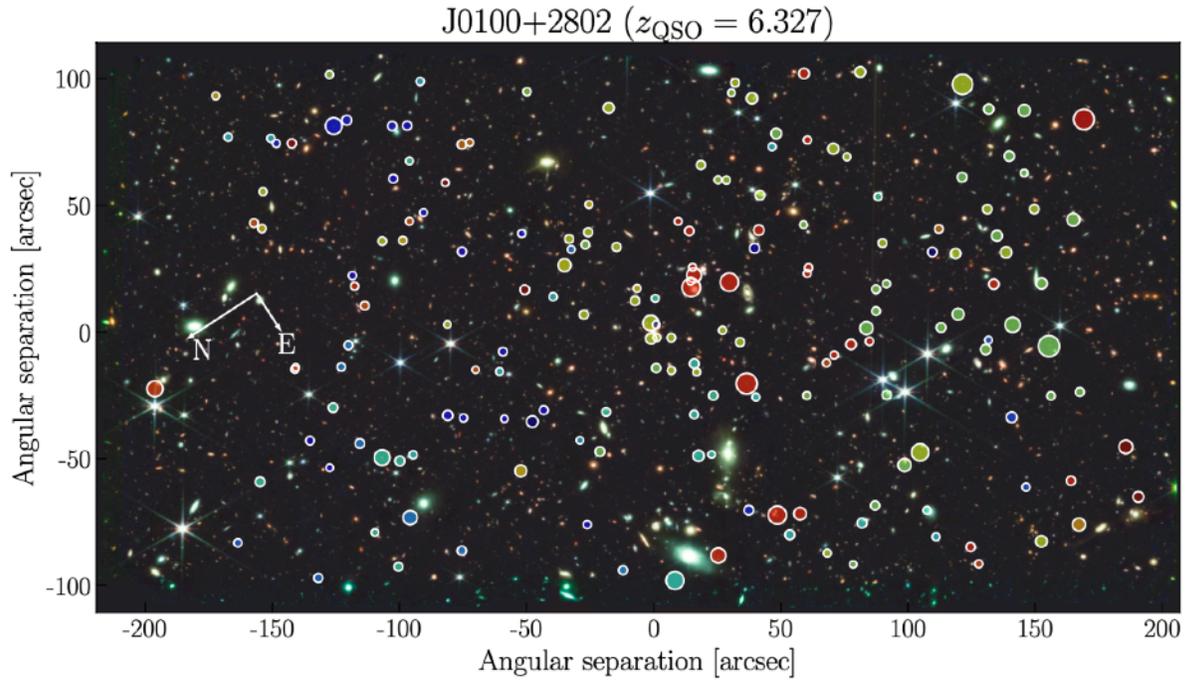
VLT



35 quasars with MUSE IFU
spectroscopy

PI E. Farina (GEMINI)

Emitters-absorbers connection with JWST NIRCам



[OIII] + $H\beta$ emitters $5.3 < z < 7$

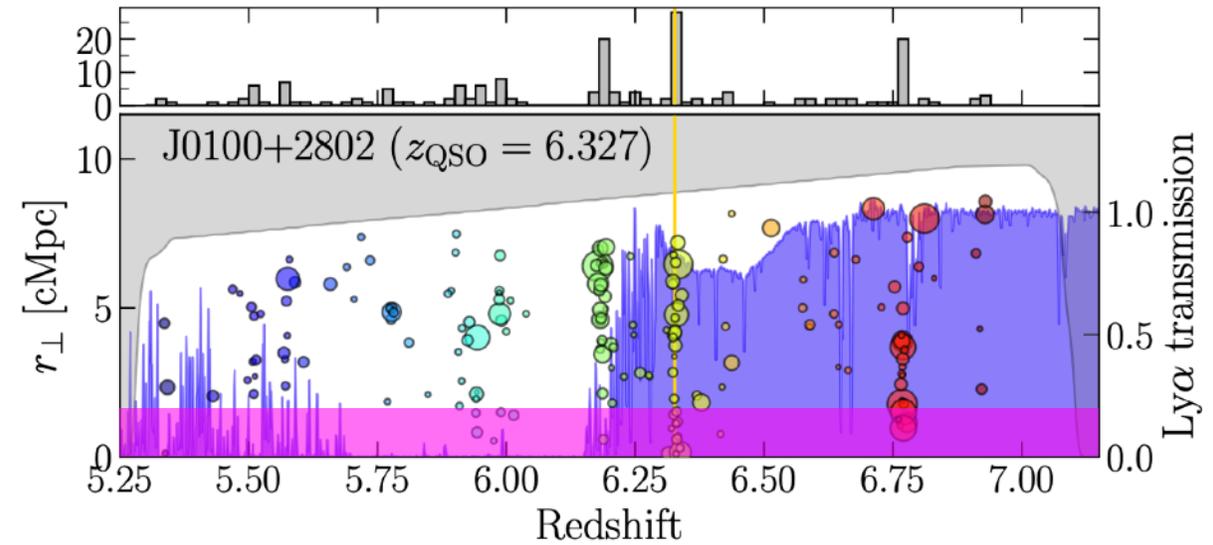
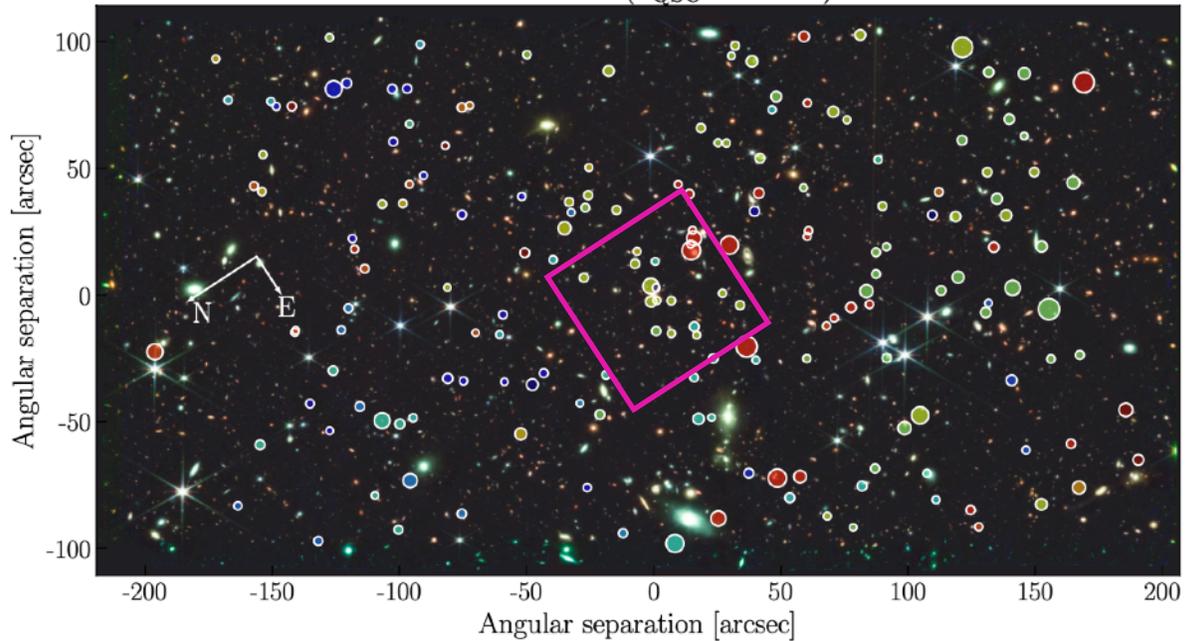
⋮

$H\alpha$ + [NII] emitters $4 < z < 5.1$

HeI + [SIII] + $Pa\gamma$ emitters $2.3 < z < 2.7$

Emitters-absorbers connection with NIRCam + MUSE

J0100+2802 ($z_{\text{QSO}} = 6.327$)



Ly α emitters $2.82 < z < 6.65$

\vdots

CIV emitters $2.0 < z < 5.0$

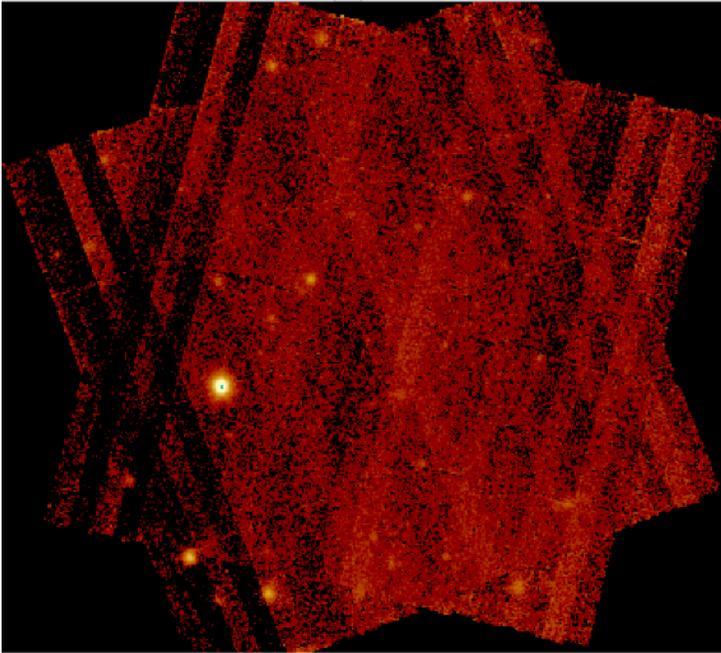
CIII] emitters $1.3 < z < 3.9$

[MgII] emitters $0.7 < z < 2.3$

Current view of Ly α emitters toward J0100+2802

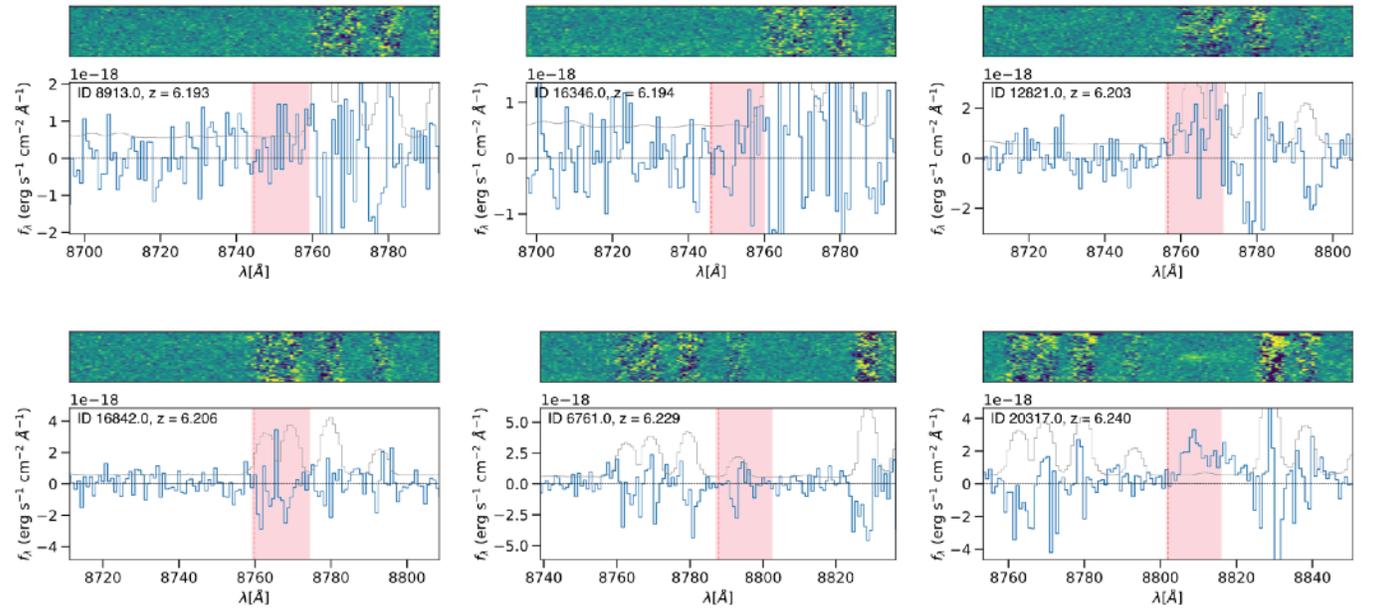
Previous obs: ~ 3000 s MUSE (Farina+2019)

This work ~ 26000 s



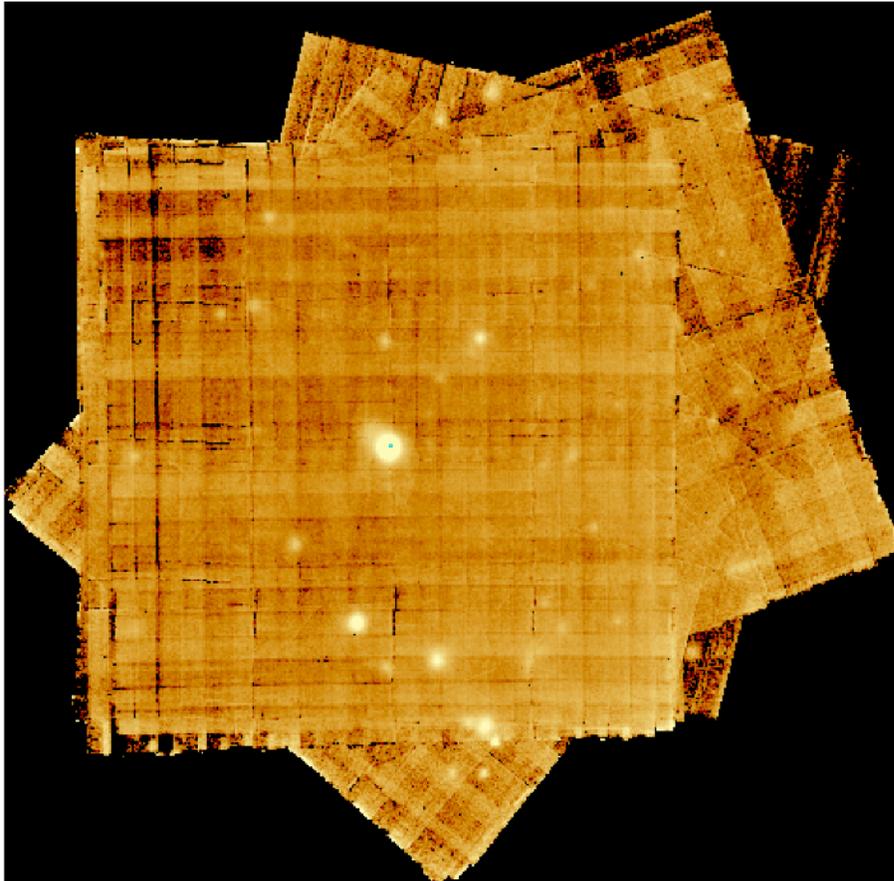
and slit Keck LRIS of 46 [OIII] emitters at $5.3 < z < 6.2$ (Hashemi+2025)

$\Delta v = 150 - 200$ km/s

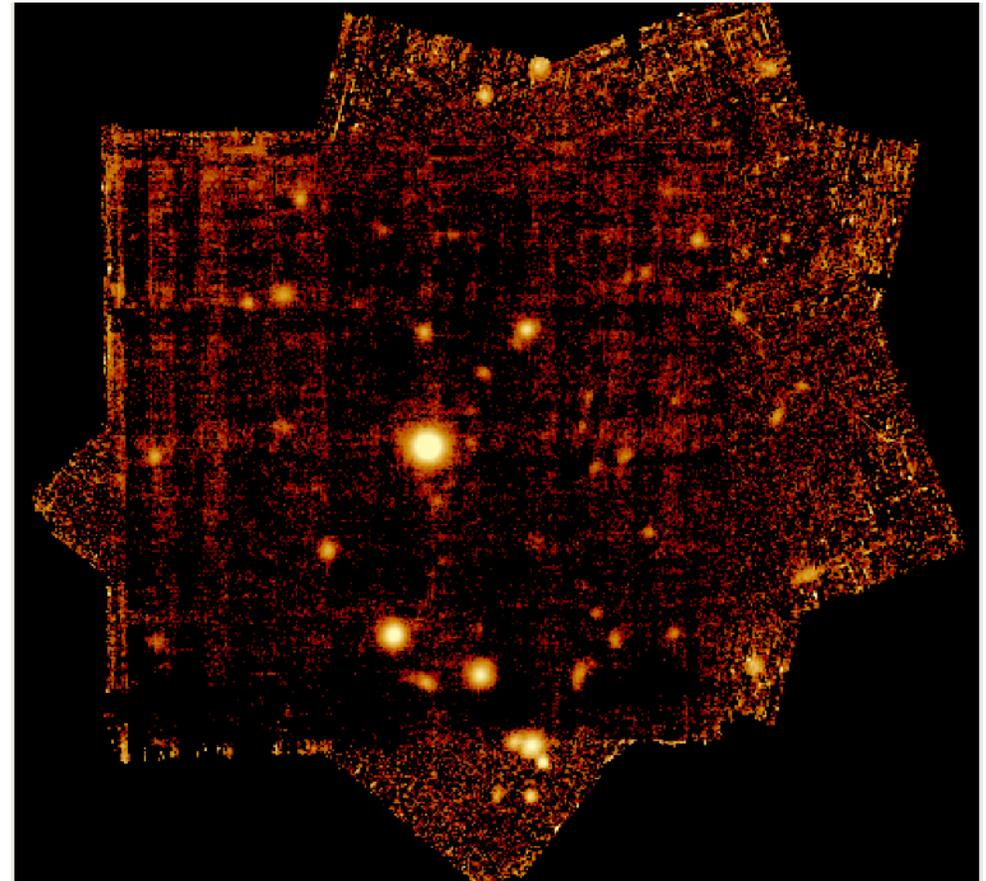


Optimizing MUSE data reduction

Esorex

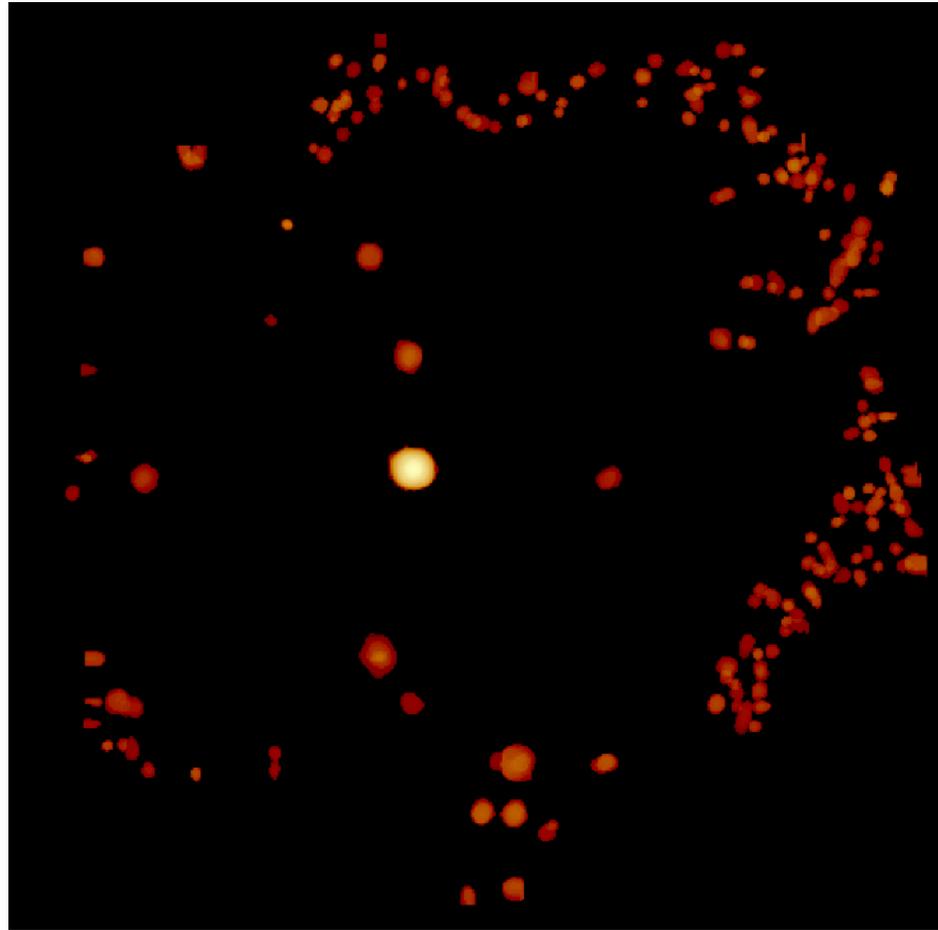


Esorex + Cubex (Cantalupo+2019)



Optimizing the extraction of line emitters

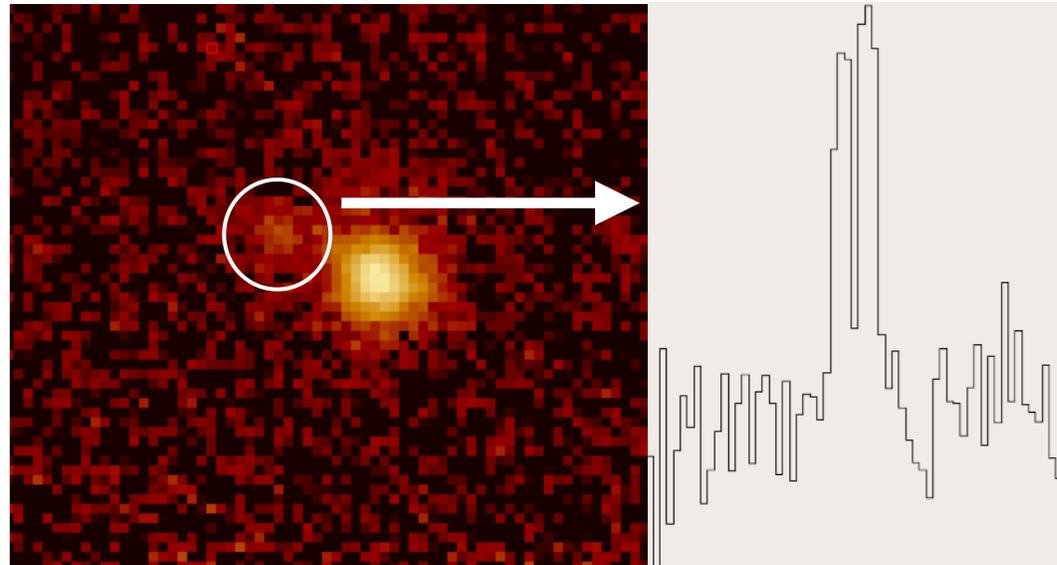
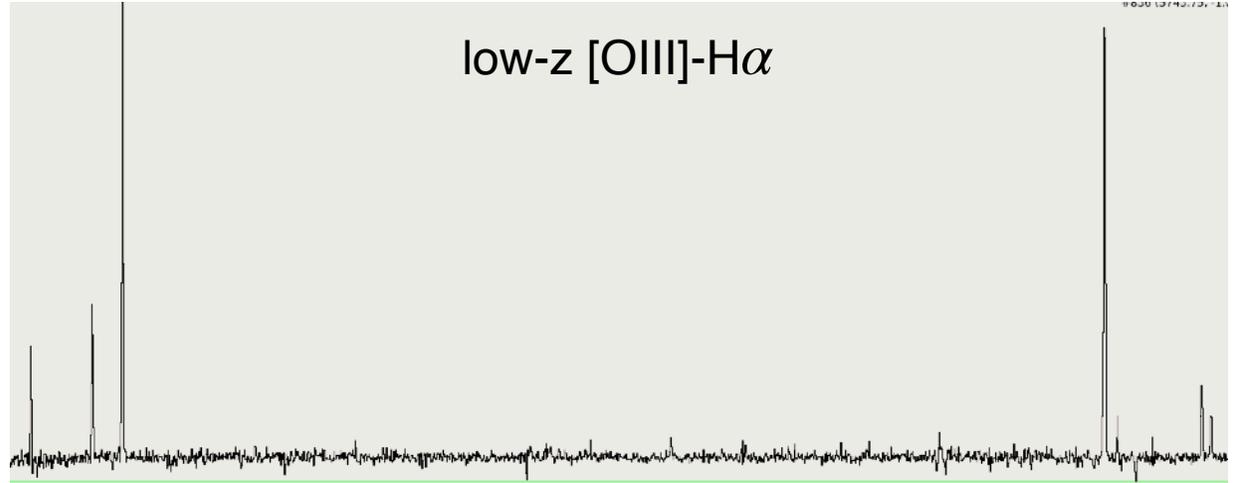
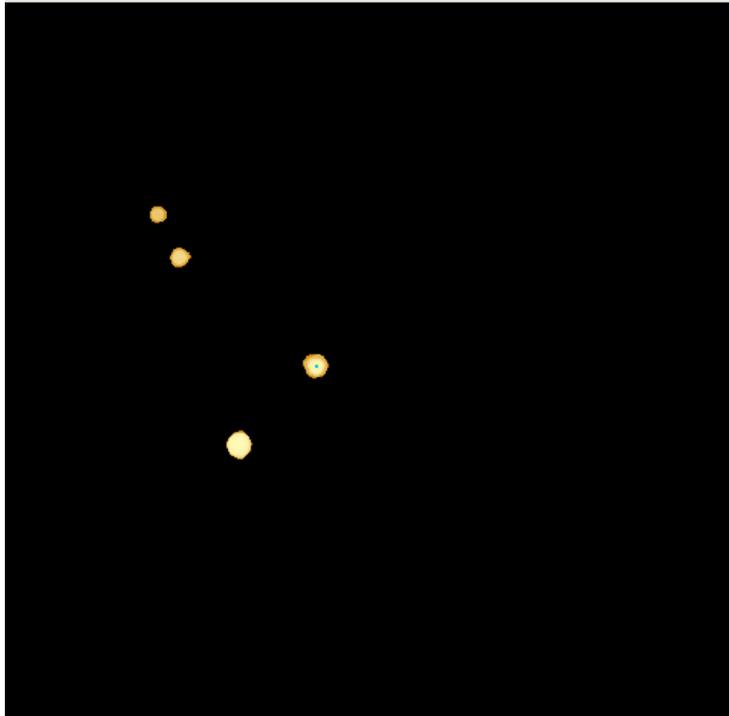
Preliminary line source masks (SNR>5, $z\sim 5$)



Optimizing the extraction of Ly α emitters

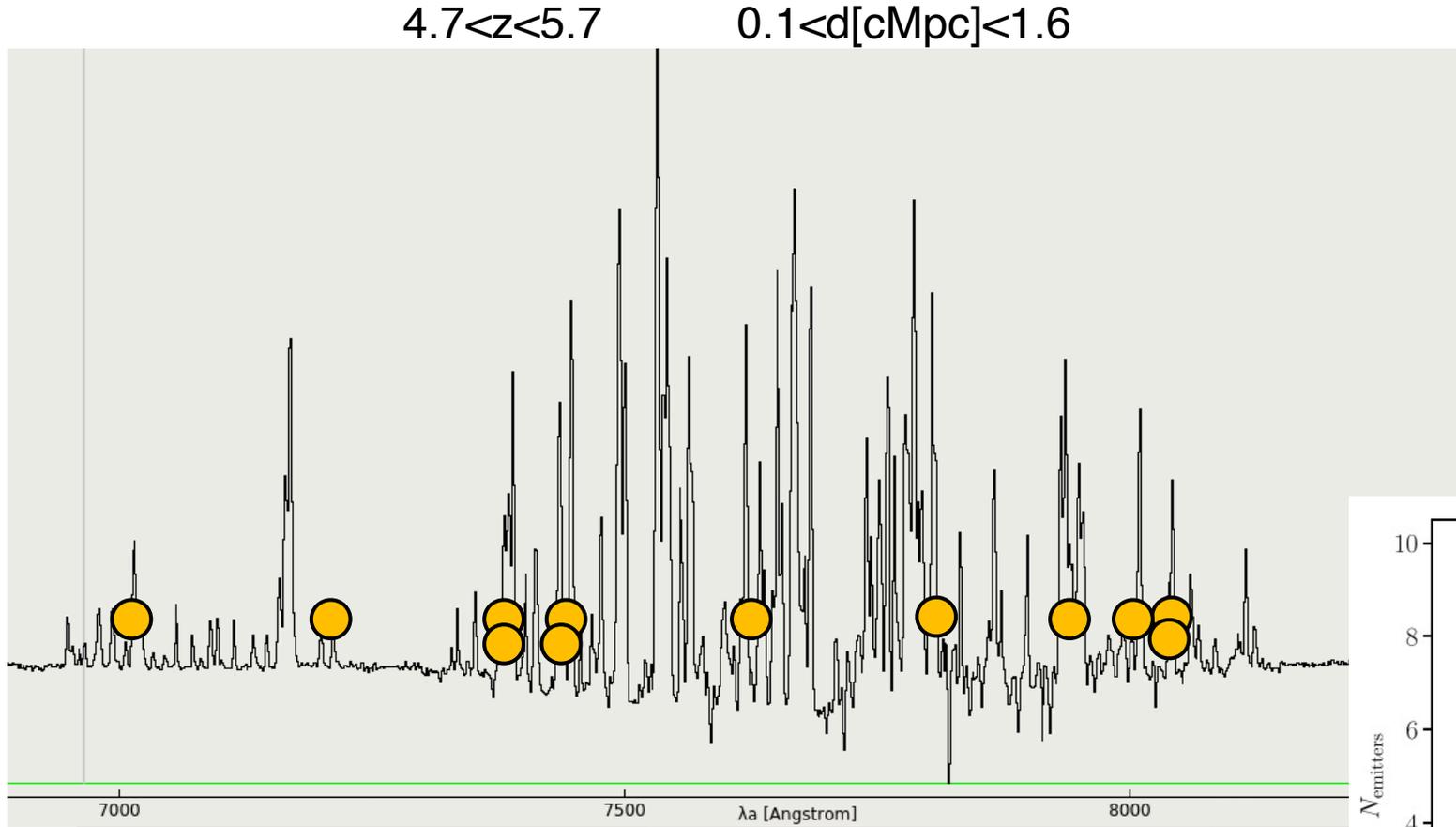
Preliminary line source masks (SNR>10)

$z=5.675$

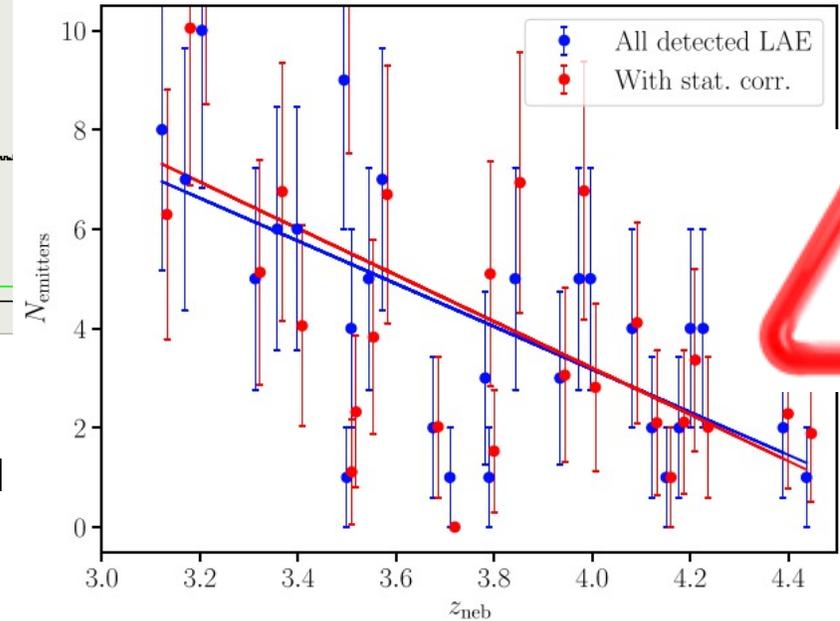


Comparison with Ly α (β) transmission

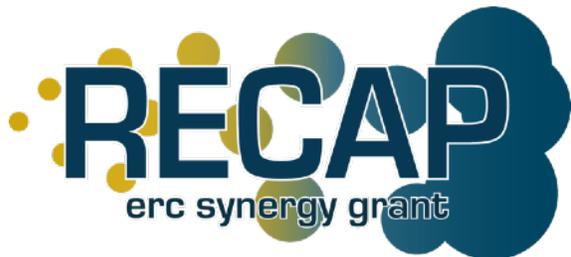
z (Ly α)	d_{\perp} (cMpc)
5.52	0.12
5.68	1.20
5.67	0.60
5.63	1.35
5.41	1.60
5.30	1.40
5.27	0.90
5.10	1.55
5.10	1.52
5.10	1.35
5.07	0.50
5.07	0.90
4.92	0.90
4.77	1.45



Fossati et al. 2021
 $z \sim 3.5$



Thank you for your attention



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