

Introduction

- extreme emission line galaxies (EELGs)
 - ongoing starforming activity
 - contributed to reionization?
- Possible scenarios
 - AGN
 - Nearby HII region
 - Shock heating

Data & method

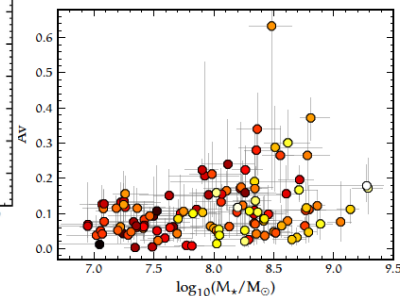
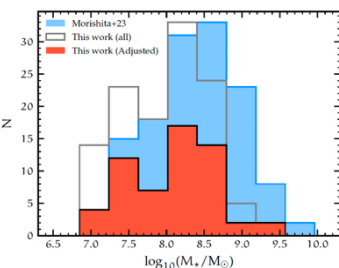
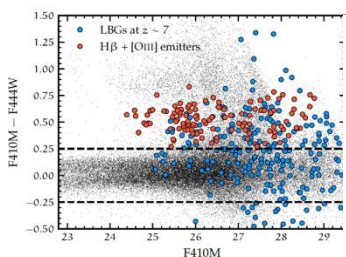
- Data: CEERs, PRIMER, JADES
- Redshift range $7 < z_{\text{photo}} < 8$
- $H\beta$ + [OIII] emitters are colour-selected \rightarrow 119
- $m_{\text{F444W}} - m_{\text{F410M}} > 0.25$
- SED fitting (gsf) \rightarrow M , A_V , UV slope (β), SFR

$$\text{SFR}_{\text{UV}} [\text{M}_{\odot} \text{yr}^{-1}] = 0.88 \times 10^{-28} \left(\frac{L_{\text{UV,corr}}}{\text{erg s}^{-1} \text{Hz}^{-1}} \right). \quad (4)$$

- Measurement of $H\beta$ + [OIII] flux and EW
- EW > 1000Å : EELGs (40%), EW > 3000Å : High EW emitters (10)

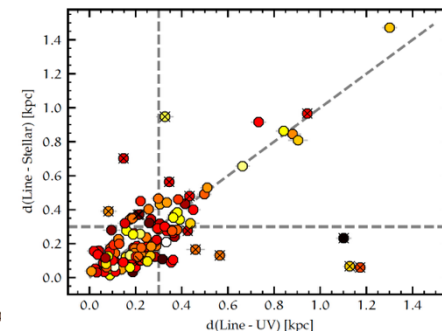
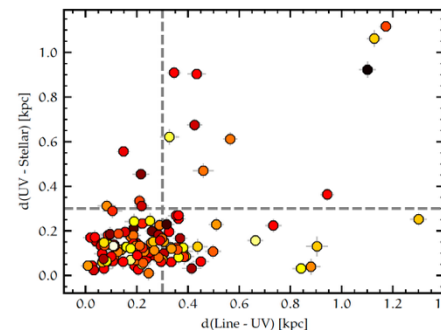
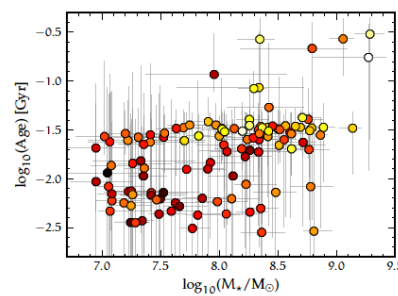
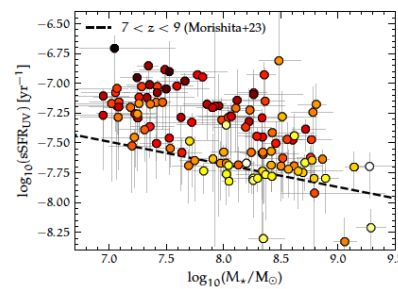
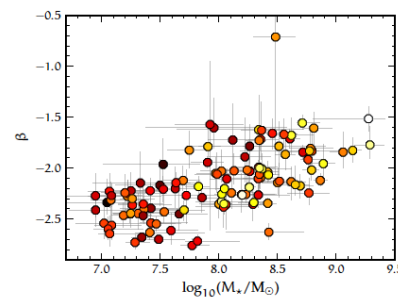
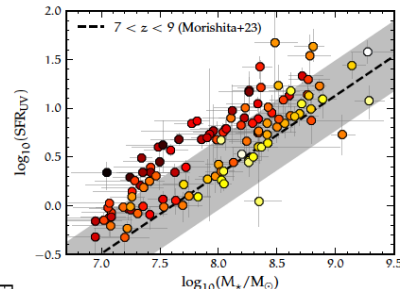
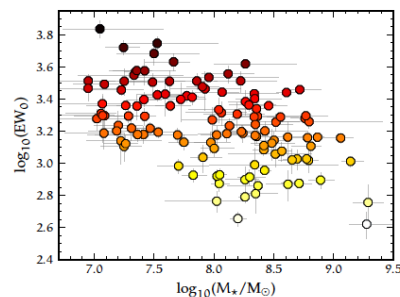
$$F_{H\beta+[OIII]} = (f_{\text{F410M}} - f_{\text{con}}) \Delta_{\text{F410M}}, \quad (5)$$

- Also, they made $H\beta$ + [OIII] line maps

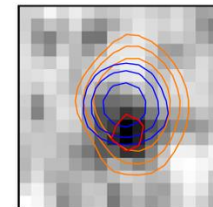


Data & method

- Detection of clumpy structures (F150W)
- more than 2 detection in $r < 0''.35$
- Measurement of the effective size r_{eff}

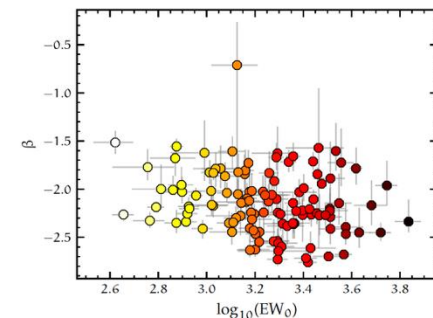
Properties of $H\beta$ + [OIII] emitters

- $d(\text{Line-UV})$ and $d(\text{Line-stellar})$ are correlated.
- 13 objects have large offsets



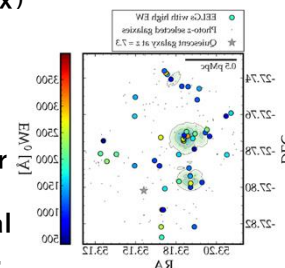
Clumpy structures

- 38% of $H\beta$ + [OIII] emitters have clumpy structures
- Higher fraction than the normal galaxies
 - high EWs are stimulated by the violent gravitational instability of the disk



Discussion

- 84% of the EELGs placed above SFMS ($> 0.3 \text{dex}$)
- higher fraction of the clumpy structures
 - Active starbursts are suggested
- no strong dependence of β on EW
 - Rapid buildup of dust reservoirs
 - a substantial contribution from nebular continuum emission
- Assuming faint AGNs, they estimated potential contribution of AGNs to the emission line flux.
- Potential contribution from AGNs is small.
- Offset Emissions are likely due to shocks from strong outflows
- They discovered an overdensity (fiftyfold) of EELGs in JADES field.
- the clustering of EELGs could be a signpost of interesting regions that host large ionization bubbles and quiescent populations.



colour selection

mass distribution

- High-EW emitters have low mass, low dust, blue colours
- \rightarrow burst phase of star-forming activities