

Morphological Parameters of $z \sim 8$ Galaxies in the BoRG and CANDELS Surveys



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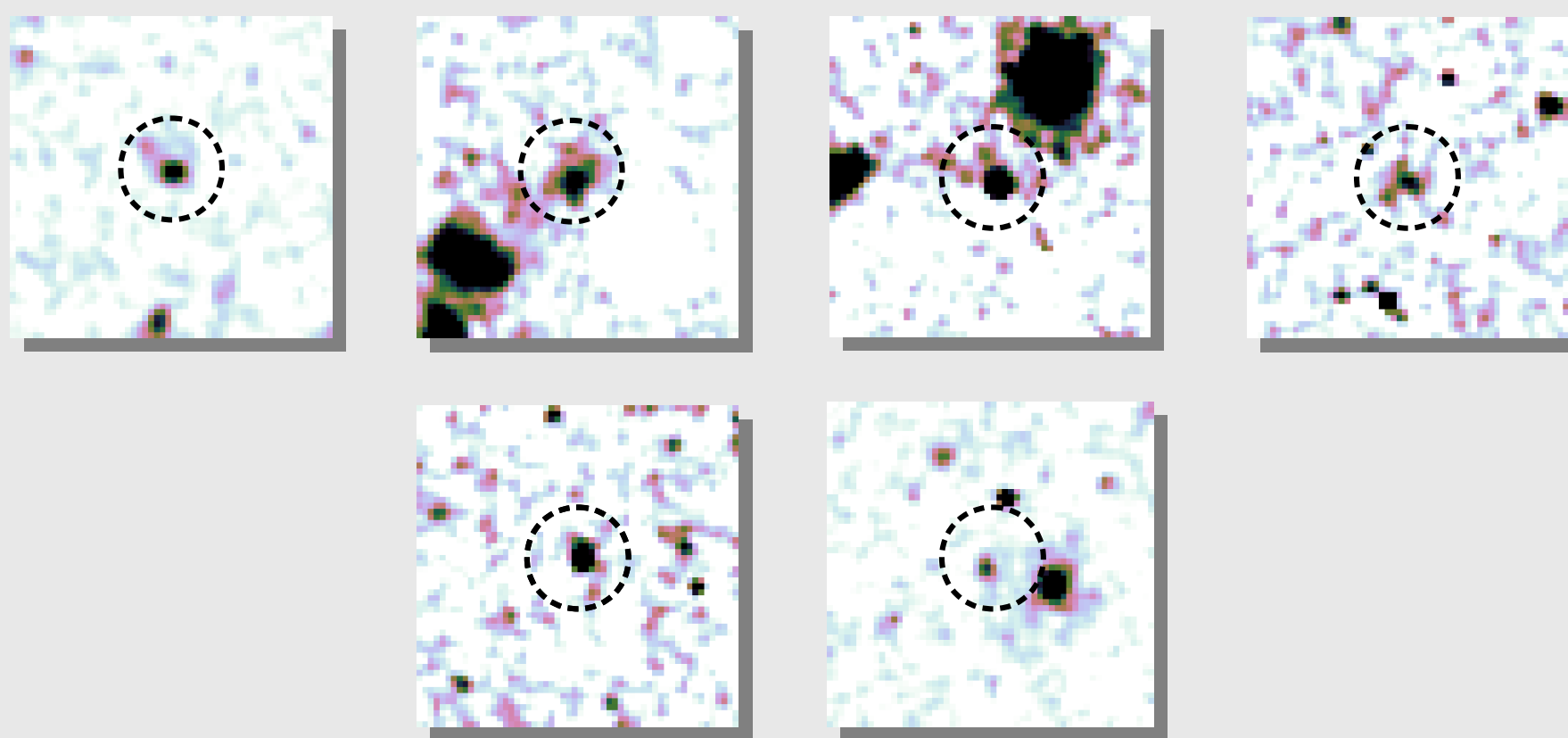
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Introduction

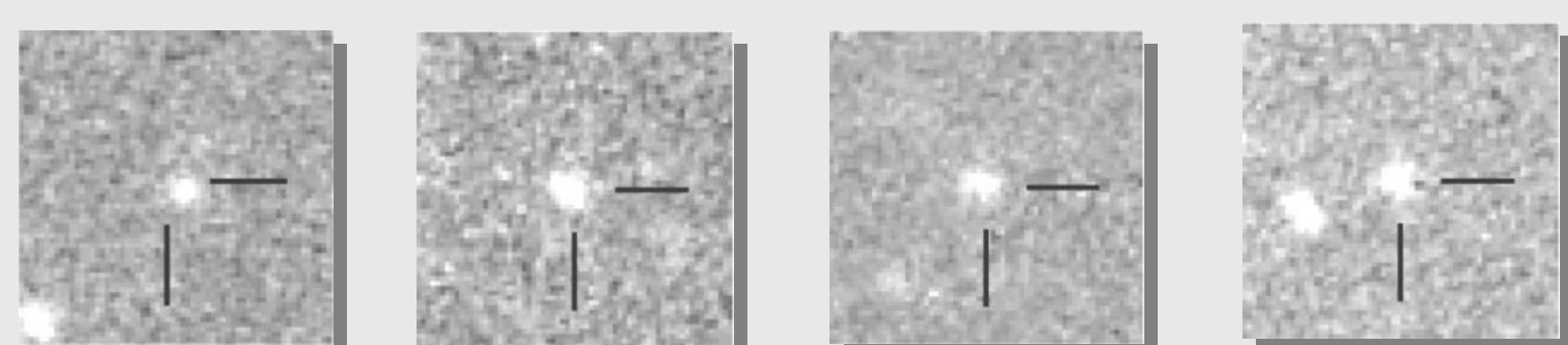
- Galaxy stamps their evolution of time as light profiles. We analyze these light profiles with morphology and morphometrics.
- How do we use proper analysis and avoid human biases with morphology (i.e. Hubble types) and low resolution (i.e. Sèrsic index)?
- We test scale-invariant morphological measurements to high redshift, ultra-luminous ($m_{AB} < 25.5$) galaxies.

Measurement

- “Super-8” sample (Bridge+, 2018) in J_{125}

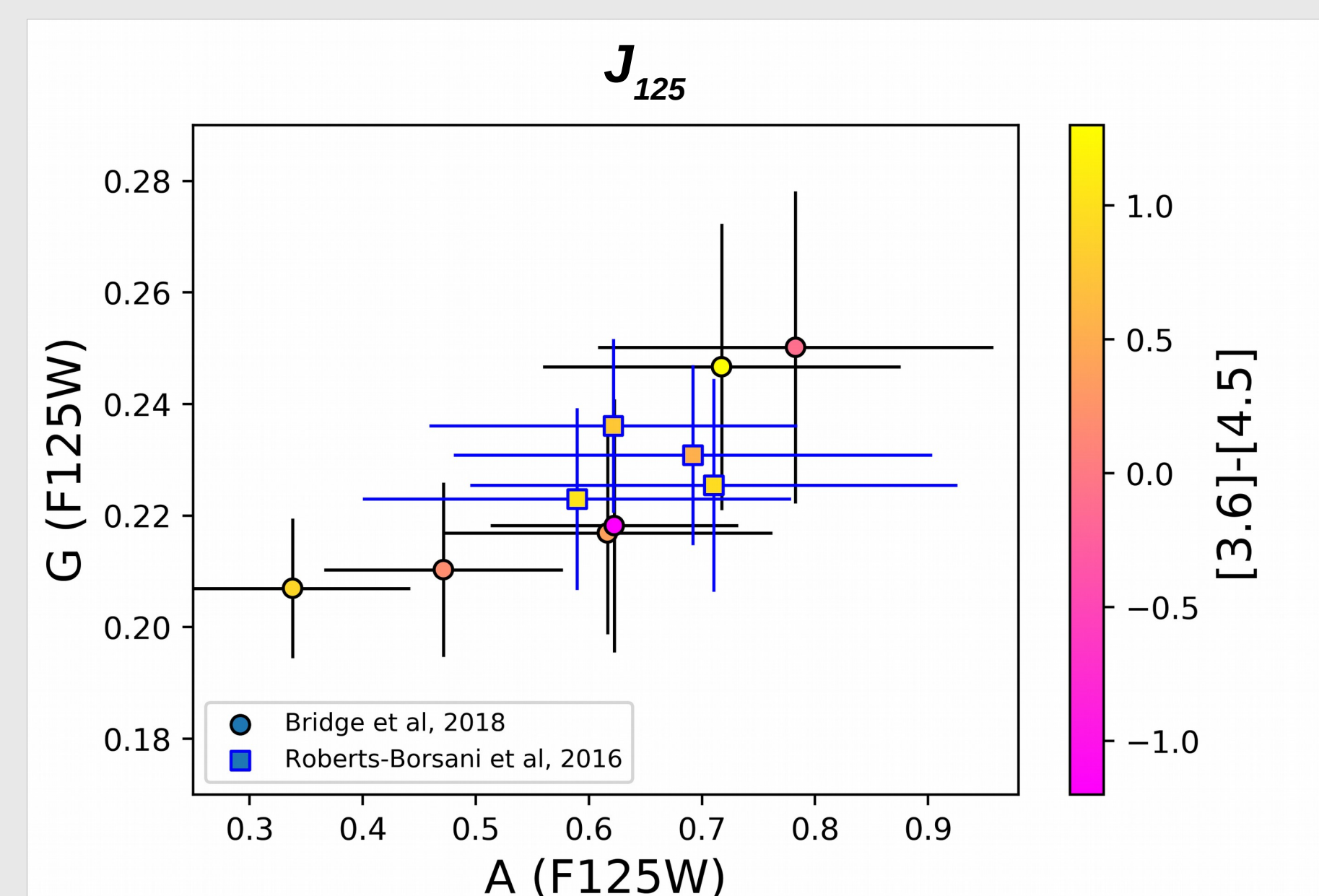
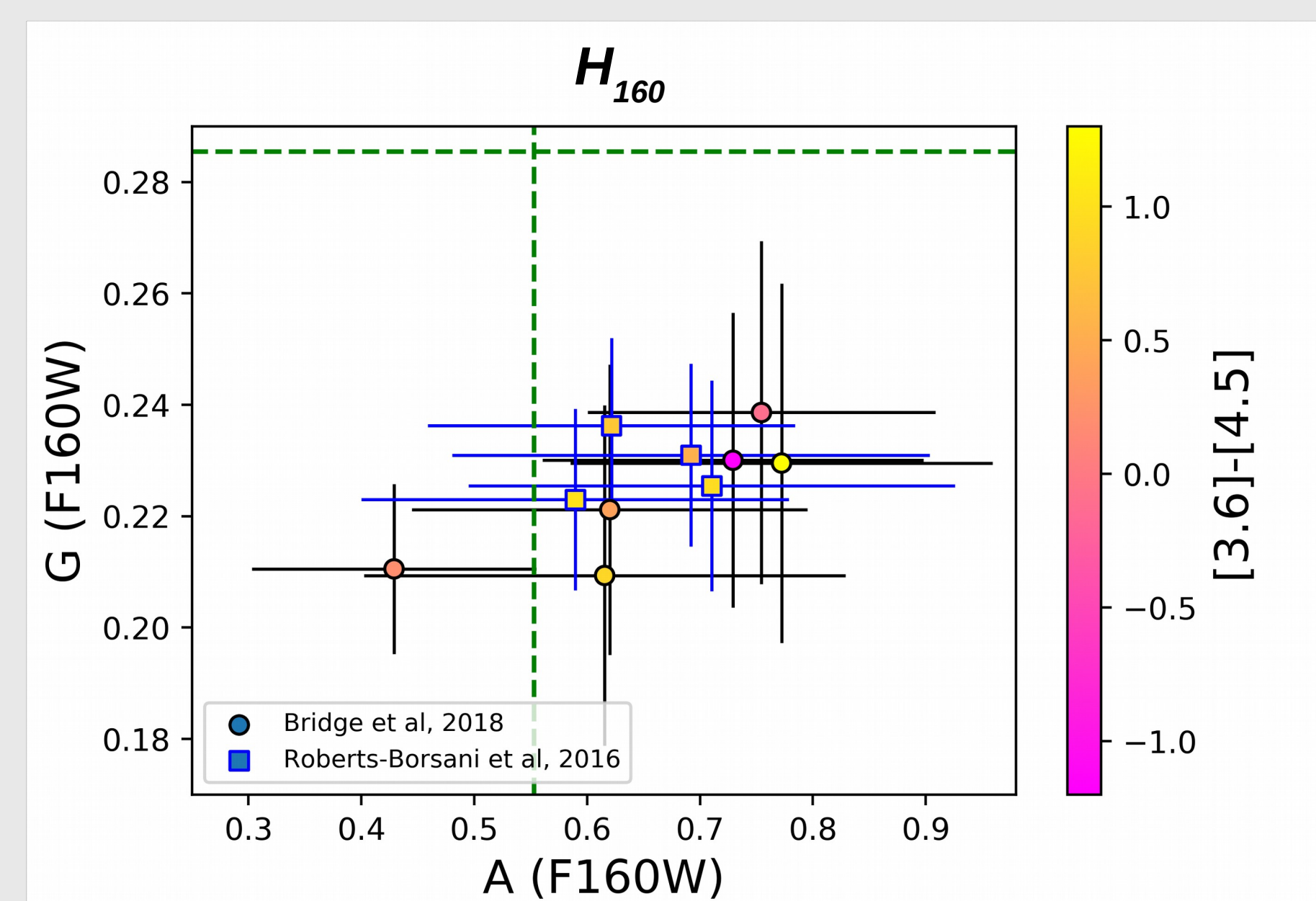


- Sample from (Roberts-Borsani+, 2016) in J_{125}



- Used: Gini and Asymmetry (Holwerda+, 2010)

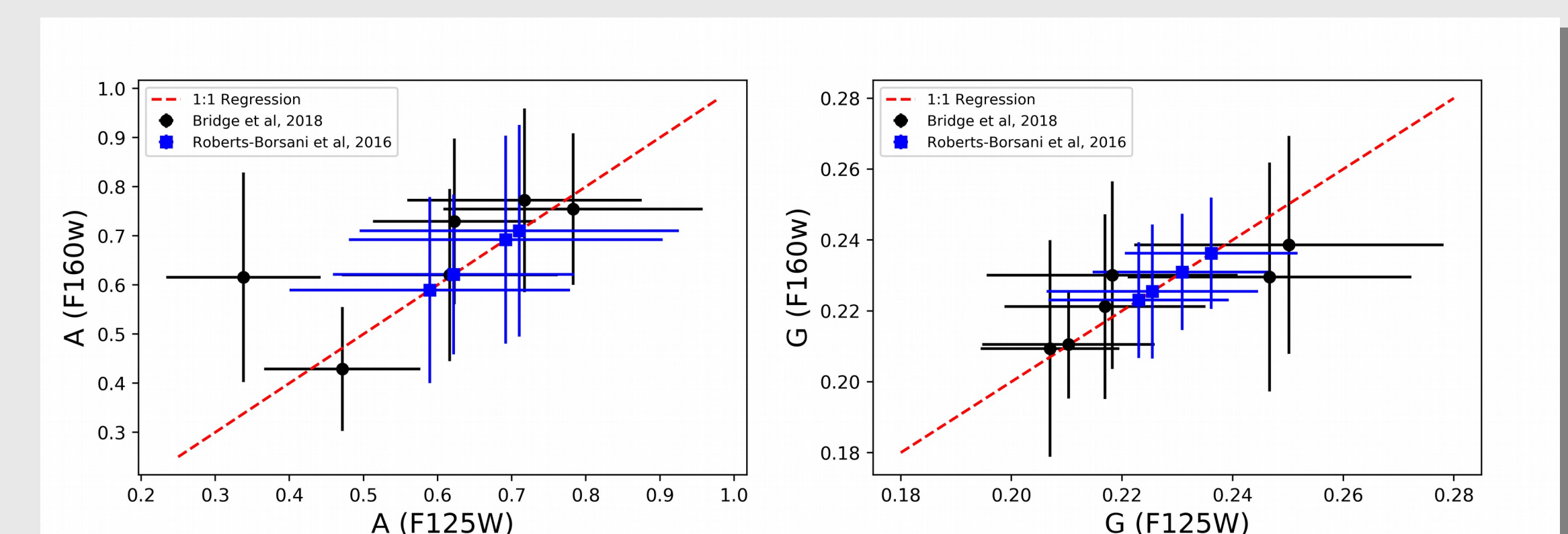
Results



• $0.18 < G < 0.30$

• $0.25 < A < 1$

- No correlation between Gini, Asymmetry, or other parameters (paper in prep.)
- Self-similarity in sample points to using Gini and Asymmetry as indicators for high redshift



Discussion

- **Candidacy:** possibility of using Gini and Asymmetry for high-redshift candidates, either J_{125} or H_{160}
- **Star Formation:** Internal star formation is likely the dominant process during Re-ionization (Lotz+, 2010; Bouwens+, 2016)

Acknowledgments

- Keck Funding Grant
- SExtractor (Bertin & Arnouts, 1996)



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