Low Mass Galaxies are *Bursting* for Attention

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Star formation rate density

Hopkins & Beacom 2006
SFR increases with $M^*$ and size

Wuyts et al. 2011
Galaxy And Mass Assembly
$z = 0.05$

Bauer et al. 2013 (arXiv:1306.2424)
Specific Star Formation Rate

log Stellar Mass

0.29 < z < 0.32
n = 2574

0.26 < z < 0.29
n = 3838

0.23 < z < 0.26
n = 3458

0.20 < z < 0.23
n = 4540

0.17 < z < 0.20
n = 4774

0.11 < z < 0.14
n = 3648

0.05 < z < 0.11
n = 3102

"Green Peas"
Specific Star Formation Rate vs. Stellar Mass for different redshift ranges:

- $0.05 < z < 0.11$
- $0.11 < z < 0.14$
- $0.17 < z < 0.20$
- $0.20 < z < 0.23$
- $0.23 < z < 0.26$
- $0.26 < z < 0.29$
- $0.29 < z < 0.32$

Bauer et al. 2013 (arXiv:1306.2424)
Star Formation Rate

Time

Now (14 Gyr)

Big Bang

Cumulative Stellar Mass

Low mass galaxies are *bursting* for attention.
Spiral Galaxy M83

*Hubble Space Telescope • WFC3/UVIS*

Ground: MPG/ESO 2.2m/WFI

HST WFC3/UVIS

NASA, ESA, R. O’Connell (University of Virginia), the WFC3 Science Oversight Committee, and ESO

STScI–PRC09–29
Integral Field Spectroscopy with SAMI

Fogarty et al. 2012
Croom et al. 2012
http://mygalaxies.co.uk/

Steven Bamford
- SSFRs decrease with increasing $M_*$ (not constant)
- upper envelope of SSFR vs $M_*$ decreases with redshift
- GAMA galaxies have higher SSFRs than predicted by simple SFH from $z = 1$
- Low mass galaxies are *bursting* for attention.
  because of individual star-forming regions

Bauer et al. 2013 (arXiv:1306.2424)