
HOSTS
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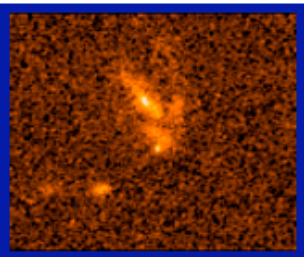
http://www.pha.jhu.edu/~savaglio/ghosts



GRB Host Studies

- Introduction
- Project
- GRB hosts
- Proposals
- Papers
- Team
- Related links
- Glossary
- Search

GRB Host Studies (GHostS)

GRB 991208

- Redshift z=0.706
- Luminosity distance D=4315 Mpc
- Galactic dust extinction E_{B-V} = 0.016
- Spectrum of the optical transient from Castro-Tirado et al. (2001)
- HST image of the host from Andy Fruchter's GRB web page
- Host SED:

Observed wavelength (Å)	Flux (μJy)	References
4387	0.347±0.055	Christensen et al. (2004)
5576	0.571±0.085	Christensen et al. (2004)
6428	0.632±0.088	Christensen et al. (2004)
8030	1.21±0.22	Christensen et al. (2004)
21642	1.32±0.25	Christensen et al. (2004)

- Host emission line fluxes:

Emission line	Flux (10^{-17}cgs)	References
[OII] λ3727	17.9±2.2	Castro-Tirado et al. (2001)
Hβ	38.4±3.3	Castro-Tirado et al. (2001)
[OIII] λ4959	16.1±3.2	Castro-Tirado et al. (2001)
[OIII] λ5007	49.0±3.3	Castro-Tirado et al. (2001)

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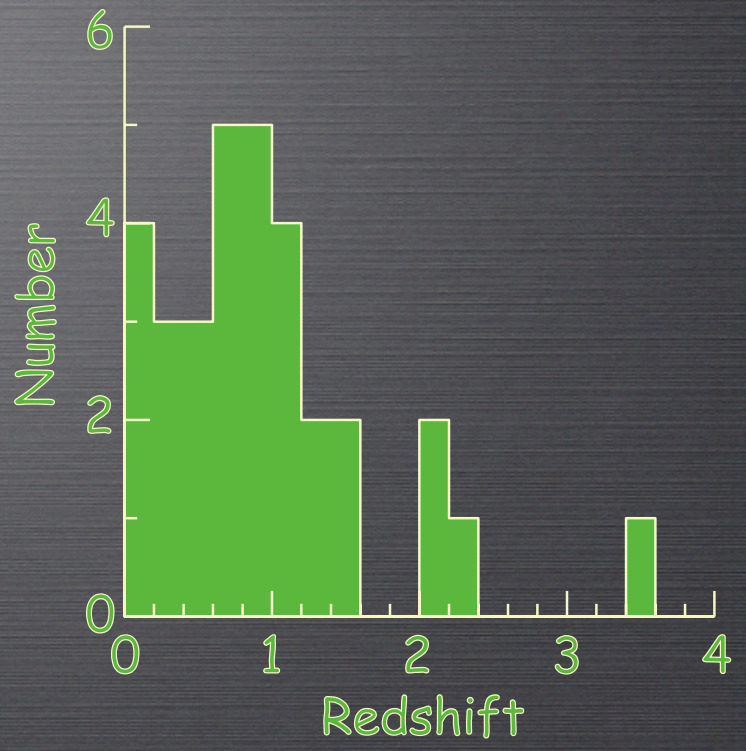
32 GRB hosts

multi-band photometry

Median redshift z=0.84



19 [OII]

10 [OIII]

9 Hβ

~ 70 papers used

GRB host properties

Stellar masses

Star formation rates

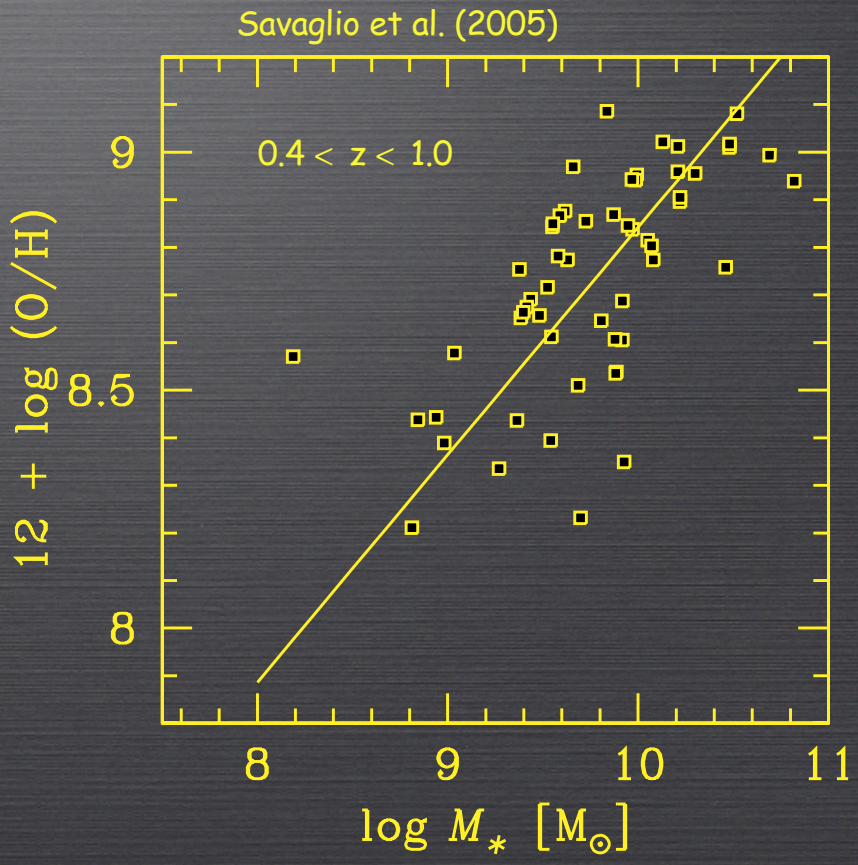
Metallicities

GRB host properties

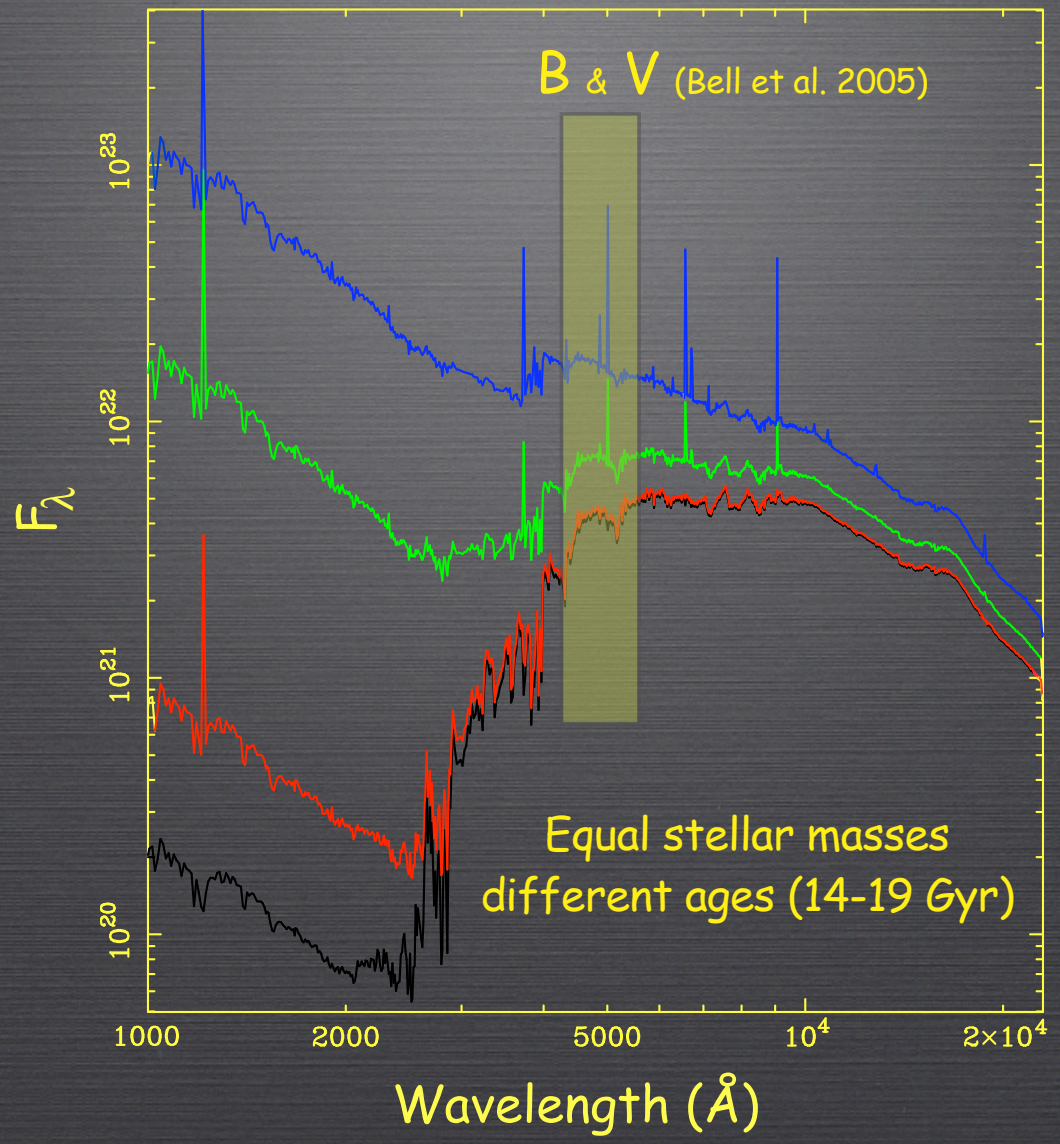
Galaxies at z~0.7:

Canada France Redshift Survey (CFRS)

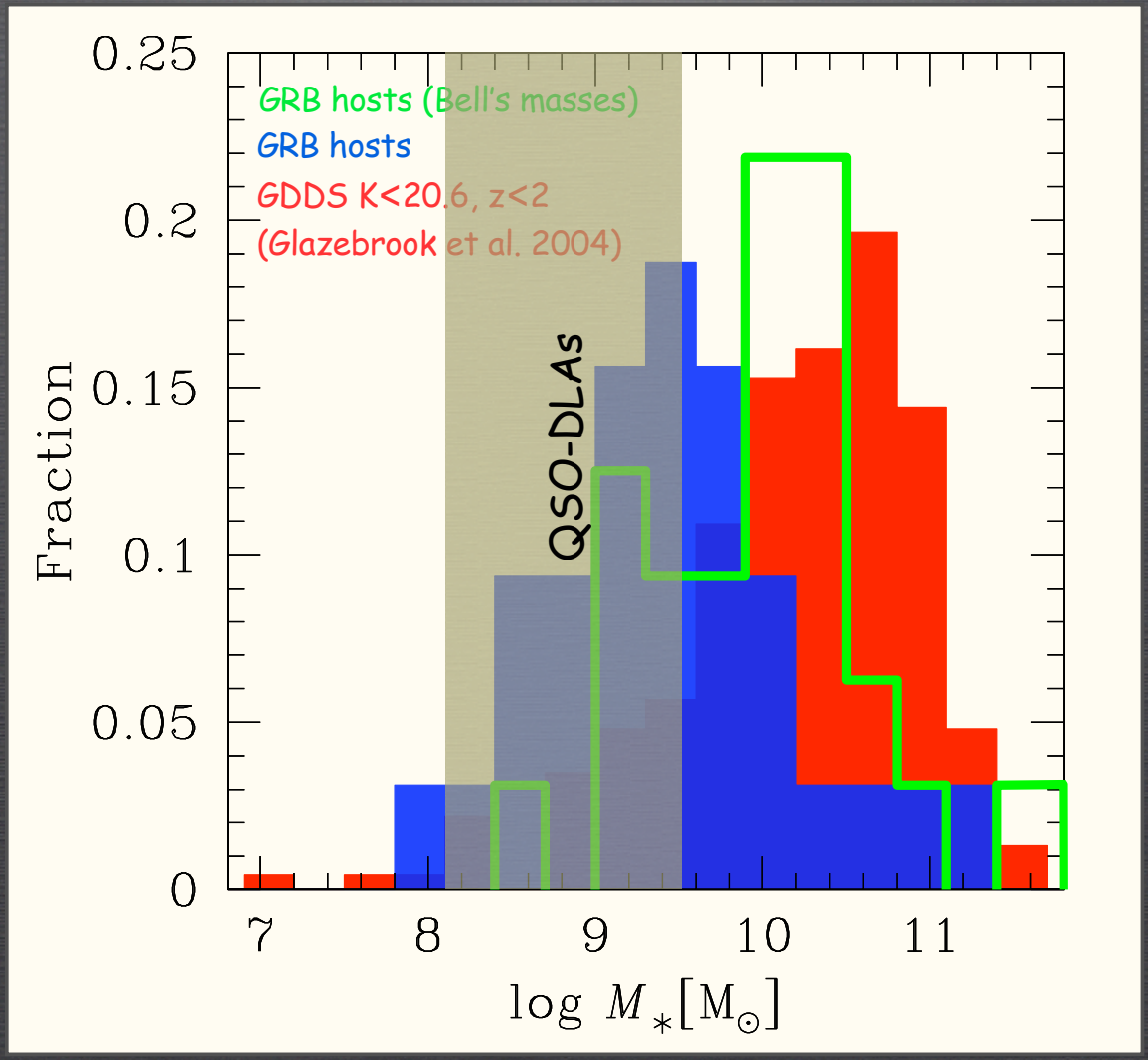
Gemini Deep Deep Survey (GDDS)



Host stellar mass



Host stellar masses



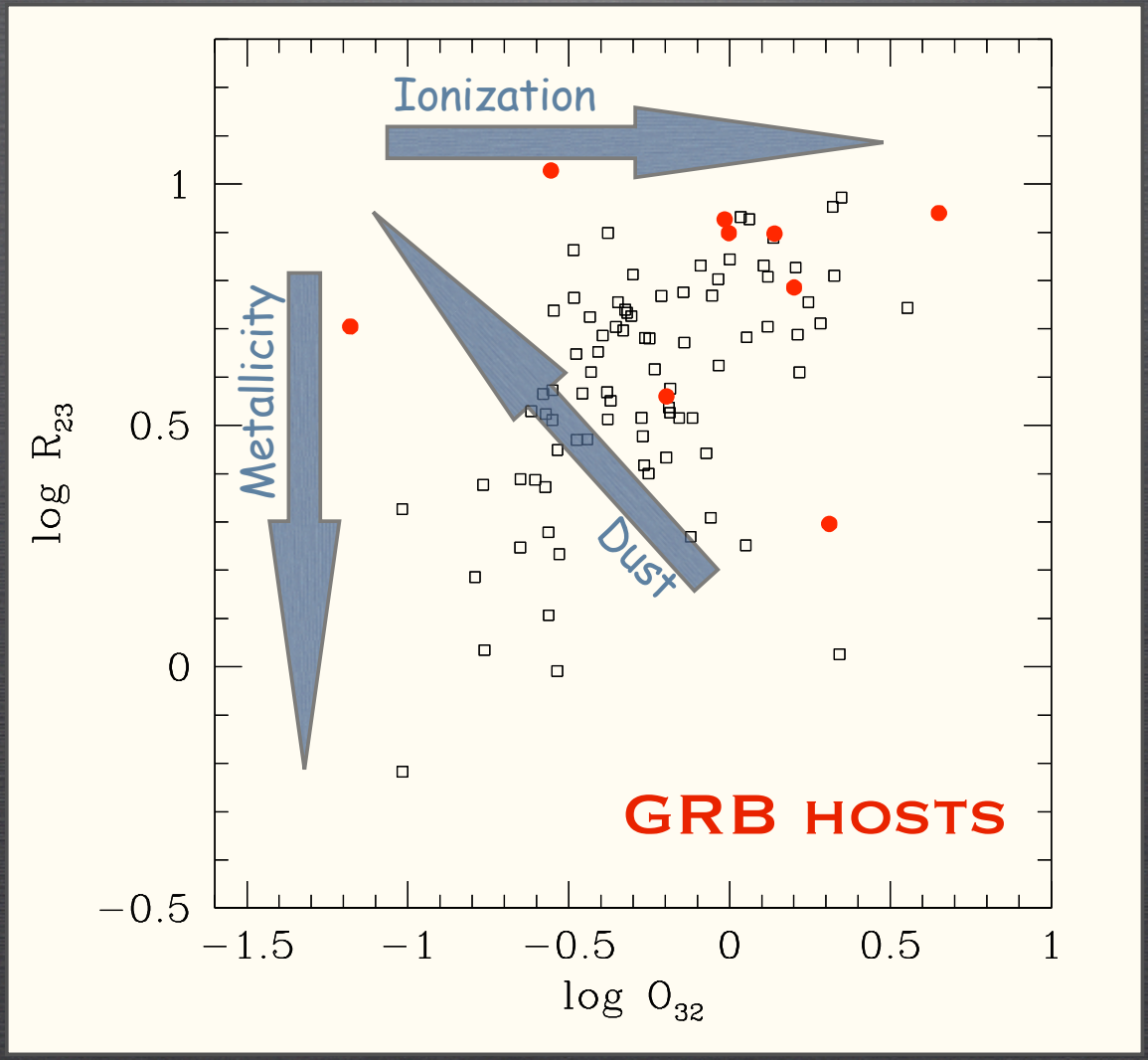
Host metallicity

$$R_{23} = \frac{[OII]+[OIII]}{H\beta}$$

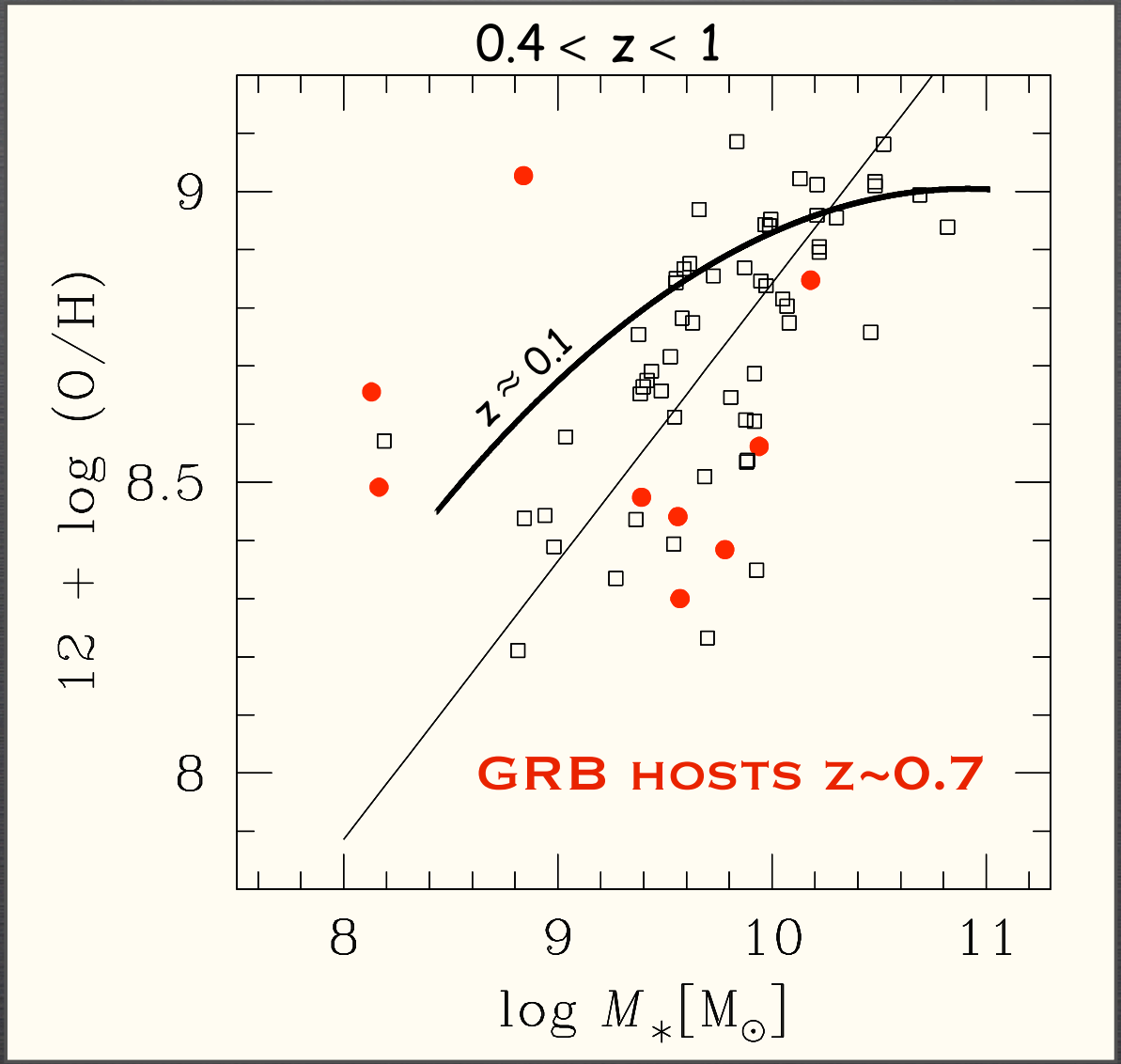
$$O_{32} = \frac{[OIII]}{[OII]}$$

Pagel et al. (1979)
Kobulnicky & Kewley (2004)

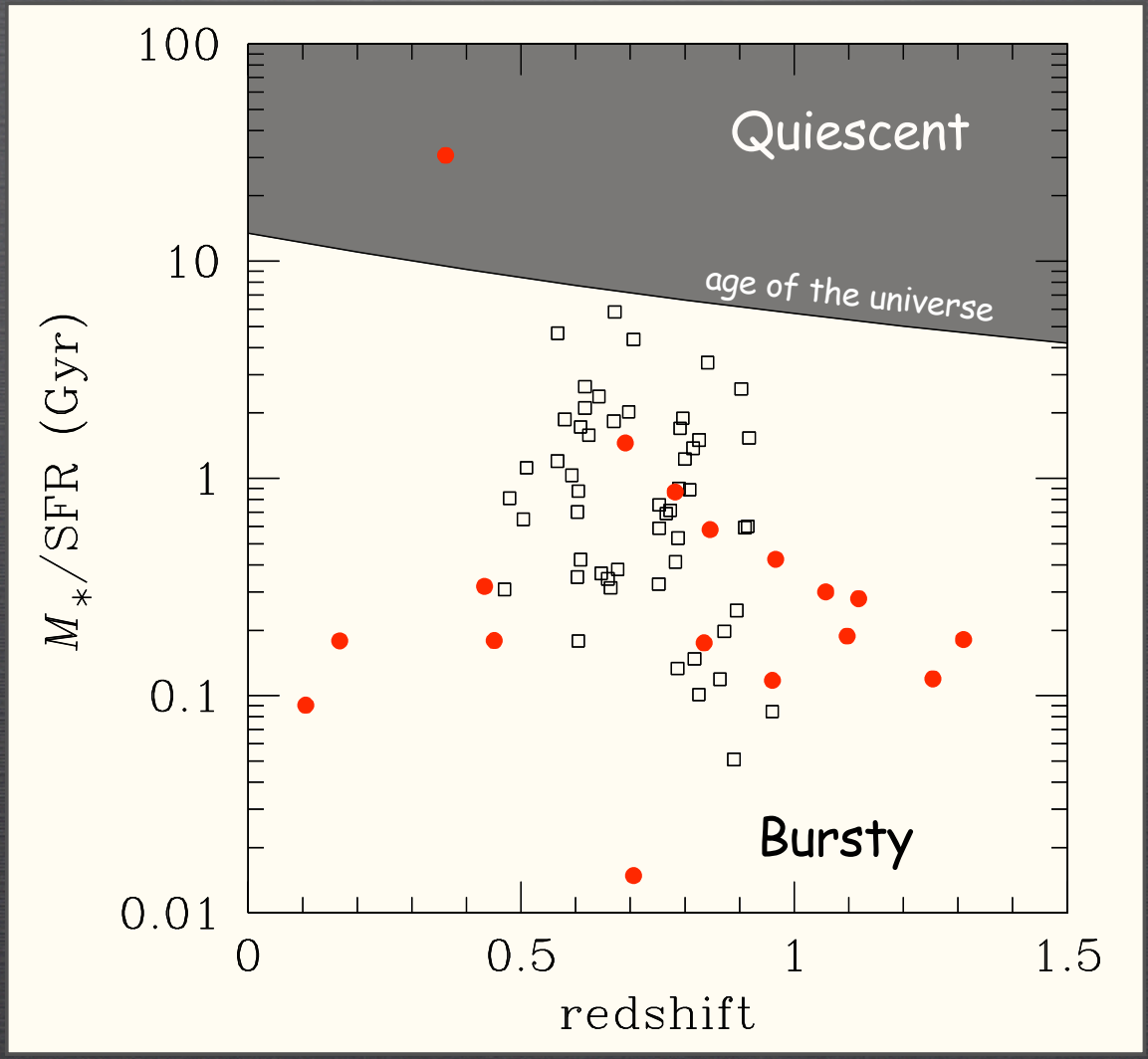
GRB HOST PROPERTIES



Mass-Metallicity relation



Growth timescale



Summary

- GHostS largest host galaxy archive
- Total stellar mass 10x lower than normal high-z galaxies
- Mass-metallicity relation as expected
- 2/3 host galaxies are bursty
- More to come ...