ZFOURGE & ZFIRE
Galaxy Evolution Over 13 (10) Billion Years

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ZFOURGE Survey

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ZFOURGE Data Release : January 2016

zfourge.tamu.edu
ZFOURGE Survey

CANDELS/GOODS-S

CANDELS/UDS

CANDELS/COSMOS
Sanity Check: 3D-HST redshifts

Average Scatter <2%!

~1000 galaxies; 73 outliers
Composite SEDs: From Imaging!

**ZFOURGE**: ~4000 galaxies at 1<z<3 (see Kriek+2011)

Forrest, Tran (TAMU), Labbé, van Houdt, Kriek
Composite SEDs: From Imaging !

ZFOURGE: ~4000 galaxies at 1<z<3 (see Kriek+2011)
Forrest, Tran (TAMU), Labbé, van Houdt, Kriek

UV to IR

Spitzer + Herschel
SED Composites: UV to FIR

Forrest, Tran et al. in prep
ZFOURGE + MOSFIRE
Tran/Glazebrook/Kewley

MOSDEF: Field z~2
Coil, Reddy
Massive Galaxy Cluster
Where/When do all these stars form?
ZFIRE Spectroscopy

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Leo Alcorn, Michael Cowley, Glenn Kacprzak,
Themiya Nanayakkara, Lee Spitler, Tiantian Yuan
Ivo Labbé, Caroline Straatman

Keck/MOSFIRE Spectroscopy of Galaxies at z~2
Redshifts & Kinematics (Yuan+2014; Tran+2015)
Emission-line Star Formation Rates (Tran+2015)
Gas-Phase Metallicities (Kacprzak+2015; Tran+2015)
Ionization Conditions (Kewley+2015)
Kinematic Scaling Relations (Alcorn, Straatman)

zfire.swinburne.edu.au
High SFRs in core due to high galaxy density
Average SFR per galaxy is LESS


Mass-Metallicity Relation

IRC 0218 @ z=1.62
Papovich+10
Tran+10

Cluster Galaxies follow same relation as Field @ z~1.6

Kacprzak+15, ApJL
Line-widths vs. Stellar Mass

COSMOS cluster $z=2.1$
Spitler et al. 2012
Yuan et al. 2014

Cluster Galaxies follow same relation as Field @ $z\sim2$?

Alcorn, Tran et al., in prep
- Massive quiescent galaxies at $z \sim 4$
- Star formation histories since $z \sim 3$
- ZFOURGE survey paper
- AGN host galaxies
- Satellite galaxies at $1 < z < 3$
- Composite SEDs for $1 < z < 3$

Data Release: January 2016

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- Galaxy Clusters @ z~2
- Cluster Substructure
- Gas-Phase Metallicities
- Star Formation Rates & Dust
- Scaling Relations

... Need more clusters