

KMOS^{3D} survey journal club

2020/4/8

KMOS^{3D} survey

Near-infrared integral field spectroscopic survey

Target:

over 700 galaxies at $0.7 < z < 2.7$

(drawn from the 3D-HST grism survey with CANDELS survey)

Instrument:

KMOS (near infrared multi-IFU) at the ESO VLT

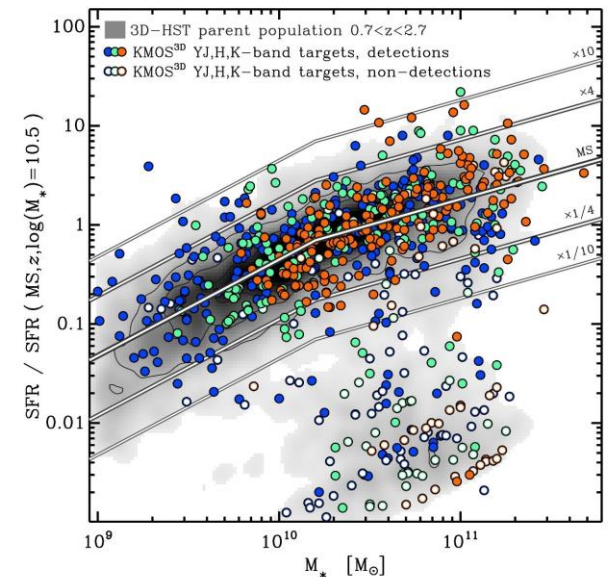
Science:

Spatially- & spectrally resolved information of ...

- Kinematics
- Star formation
- ISM condition

with Nebular emission ($H\alpha$, $H\beta$, [NII], [SII], [OIII])

→ Insights into the physics driving the early evolution of galaxies



Publications of KMOS^{3D}

Wisnioski+2019, ApJ, 886,124

“KMOS3D Survey: data release and final survey paper”

- robustly confirmed the majority ($\gtrsim 70\%$) of rotating disks among $z \sim 1-3$ SFGs with greater turbulence (Wisnioski+2015, Übler+2019)
- angular momentum distribution of high- z SFGs reflects that of their host dark matter halo (Burkert+2016)
- high- z disks become increasingly baryon-dominated out at $z \sim 2.5$ (Wuyts+2016b, Lang+2017, Übler+2017, Genzel+2017)
- trends with stellar mass and SFR of the properties of ionized gas outflows and the high duty cycle $> 50\%$ of nuclear AGN-driven winds at $\log(M_*/M_\odot) \gtrsim 11$ (Genzel+2014, Förster Schreiber+2019)
- new constraints on metallicity scaling relations and evidence in support of typical flat gas-phase oxygen abundance gradients (Wuyts+2014, 2016a)
- shed new light on dense core formation and quenching (Belli+2017, Wisnioski+2018)