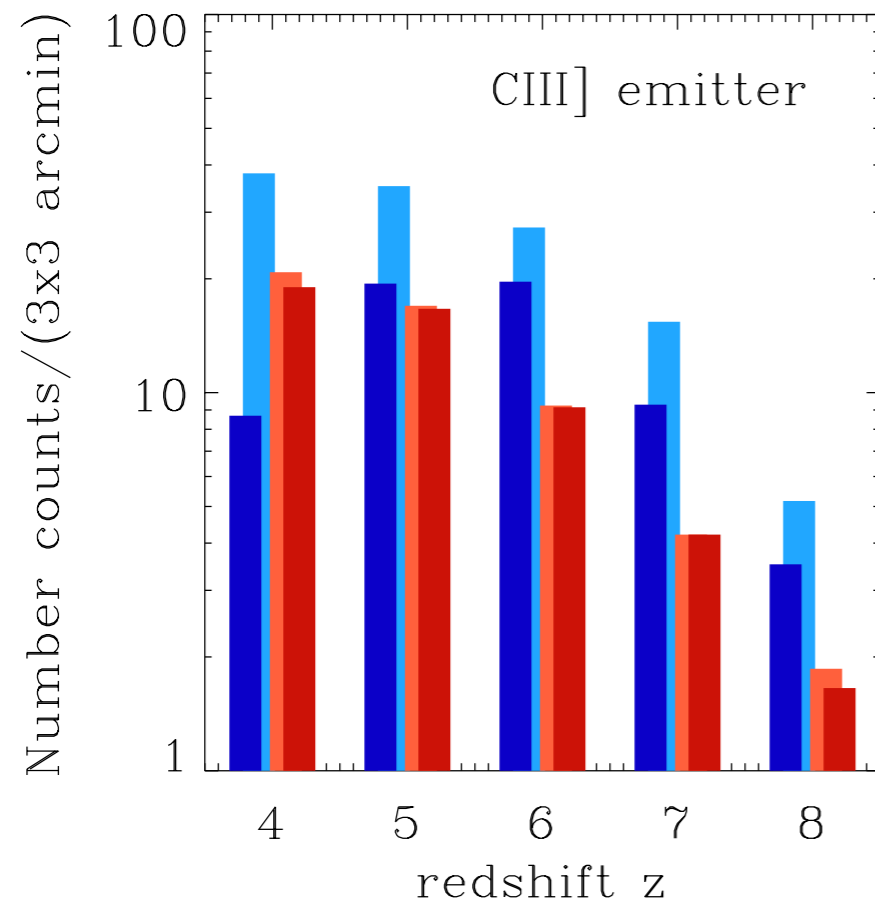
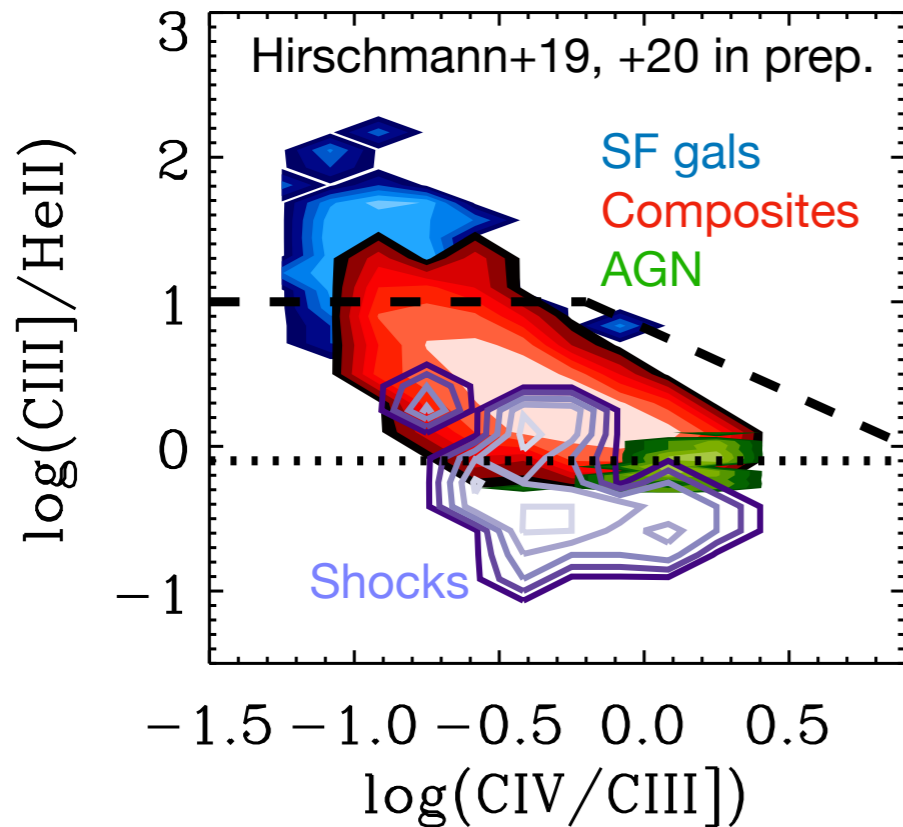


A modern theoretical framework for the cosmic evolution of the ISM in galaxies, exposed to radiation from young and Post-AGB stars, AGN, shocks...



Past year:

- Emission line catalogues of large galaxy populations over cosmic time (e.g. IllustrisTNG, Simba, Magneticum)
- First attempt to model nebular emission due to shocks
- Predictions for NIRSpec@JWST out to $z=8$
- Origin of massive quiescent galaxies at $z>2$: Novel zoom-in simulations (with Arepo)

Future:

- Novel photoionisation models & more accurate emission line generation
- Zoomin simulations of galaxies at EoR, testing BH seeding/accretion models & predictions for JWST etc
- How do first BHs evolve and affect the ISM?

Collaboration potential:

- Which model prediction for JWST/NIRSpec would observers like to have for their proposals?
- Massive quiescent galaxies: master student will explore new simulations, observational data for comparison?