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Category: Cosmic Star Formation History

Question: How does the star formation rate density evolve over all redshifts, especially at $z > 2$? Is there agreement between the measurements from ALMA, JVLA, Herschel, HST, and other instruments? Can the SFR density be dissected showing what is contributing to it at different redshifts or how might we go beyond measuring this relationship. What are the state of the art simulations and how do the observations compare to them?

The Cold Gas Reservoir in UV-bright Star-Forming Galaxies

Why were star-forming galaxies (SFGs) different in the past? The interstellar medium of typical SFGs 10 billion years ago was remarkably distinct from nearby spirals. However, the large cosmological distances involved make the study of such galaxies difficult. GALEX has unveiled a population of low-redshift UV-bright starburst galaxies with physical properties make them more akin to typical SFGs at $z \sim 2$, including higher star formation rates and lower metallicities than objects with similar stellar masses. In this talk I will present recent results regarding the molecular gas content in these galaxies, and its relation with the elevated star-formation rates observed. These properties include high gas fractions and surface densities, with values similar to their high-redshift counterparts. I will also show how future ALMA studies will greatly impact our understanding of the interstellar medium of low-metallicity SFGs.