

Journées SF2A, LAM Marseille - Juin 4–7, 2024 - Thibaud Moutard - ESA (ESAC)

Title: *Witnessing Galaxies Fate since the End of Cosmic Dawn: A Star-Formation Quenching Story*

Abstract:

Well documented over ≥ 12 billion years (e.g. Davidson et al 2017), the continuous increase of the fraction of quiescent galaxies (where star formation has stopped) is the statistic expression of the *quenching* —i.e. the permanent shutdown— of star formation in galaxies. Such permanent quenching of the star formation requires, however, mechanisms able to suppress and prevent the cold-gas infall, which one may expect to vary depending on galaxies properties and environment.

In particular, the physical processes which were at play in the early quenching of the very first quiescent galaxies a few 100Myrs after their formation (e.g. Chworowsky et al. 2023) are expected to be quite different from what has driven the quenching of the star formation at lower redshift, at more advanced stages of galaxy clustering and evolution, since cosmic noon (Moutard et al. 2018, 2020b).

I will draw on the deepest, sharpest near- and mid-infrared surveys ever conducted to date (even) with JWST (respectively, >31 and >29.5 AB at 3.6 and $5.6\mu\text{m}$), as part of JADES (NIRCam & NIRSpec GTOs) and MIDIS (MIRI GTO), in order to discuss the various channels of galaxy star formation quenching that observations support since $z \sim 7$, from the end of of cosmic dawn (Moutard et al. 2024 in prep).