

Red passive galaxies: when did they form?

Why some today's galaxies are spiral and other elliptical? Why some are star-forming, while others have been “red and dead” already for some time? While we already seem to have a general scenario of the evolution of different types of galaxies, a complete and satisfactory understanding of the processes that led to the formation of all the variety of today's galaxy types is still beyond our reach.

To solve this problem, we need both large datasets reaching high redshifts and novel methodologies for dealing with them.

In my presentation, I will show results based on the data from the VIMOS Public Extragalactic Redshift Survey (VIPERS) – the largest redshift survey at $z \sim 1$ so far. I am going to discuss star formation histories of the largest population of red passive galaxies ever analyzed for $z > 0.5$, and I will present a novel method of galaxy classification, based on machine-learning techniques, revealing the true complexity of galaxy population found at $z \sim 1$.