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LA DYNAMIQUE DES GALAXIES JUSQU'A $Z \sim 1$

Many attempts had been done to estimate dynamical masses of galaxies at intermediate redshifts. They lead to Tully-Fisher relations with very large scatters, rendering uneasy further tests on the evolution of the relation between dark and visible matter.

The use of multiple integral field units such as the 15 IFU of FLAMES/GIRAFFE at VLT revolutionizes these investigations. This facility is able to recover the velocity fields of almost all the emission line galaxies with $I(AB) < 22.5$. It has been found that less than 40% of intermediate redshift galaxies are indeed rotating disks, producing a Tully-Fischer relationship (stellar mass or $M(K \text{ band})$ versus V_{\max}) which has apparently not evolved in slope, zero point and scatter, since $z=0.6$.

The very large scatters found in previously reported Tully-Fischer relationships at moderate redshifts are apparently due to the difficulty to identify the nature of velocity fields with slits.

The large fraction of complex velocity fields is suggestive of a large impact of merging in shaping the galaxies in the intermediate mass range.

I'll briefly discuss how this can be accommodated within the frame of current galaxy formation scenarios.