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Tracking the connection between quenching and dynamics across cosmic time

In the local Universe we have made comparisons between galaxies from the SAMI galaxy survey and dynamical models. Based on kinematic measurements, these comparisons show that the transition between spirals and S0s (or star forming to passive disks) cannot be dominated by disk-fading, but that intrinsic dynamical evolution must take place either during or after the quenching happens (https://arxiv.org/abs/2105.10179). Even when accounting for progenitor bias, using simulations from EAGLE, we find that intrinsic dynamical evolution must be important. However, the key to a deeper understanding of this process is the ability to make resolved stellar kinematic measurements at earlier epochs. In particular we want to measure the stellar dynamical properties of high-redshift star forming disks, as these are the progenitors of today's passive disks (S0s). The MAVIS IFU provides an excellent opportunity to make such measurements and we will discuss some of the practical aspects of making these observations.

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