

# Real & Simulated IFU Observations of Low-Mass Early-Type Galaxies: Environmental Influence Probed for Cluster Galaxies

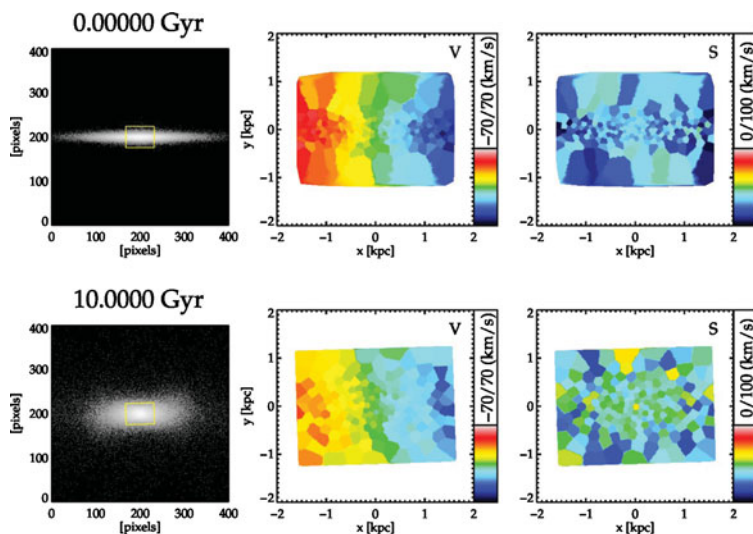
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**Abstract.** We combine high-quality IFU data with a new set of numerical simulations to study low-mass early type galaxies (dEs) in dense environments. Our earlier study of dEs in the Virgo cluster has produced the first large-scale maps of kinematic and stellar population properties of dEs in those environments (Ryś *et al.* 2013, 2014, 2015). A quantitative discrimination between various (trans)formation processes proposed for these objects is, however, a complex issue, requiring a priori assumptions about the progenitors of galaxies we observe and study today. To bridge this gap between observations and theoretical predictions, we use the expertise gained in the IFU data analysis to look “through the eye of SAURON” at our new suite of high-resolution N-body simulations of dEs in the Virgo cluster. Mimicking the observers perspective as closely as possible, we can also indicate the existing instrumental and viewer limitations regarding what we are/are not able to detect as observers.

**Keywords.** galaxies: kinematics and dynamics, galaxies: structure, galaxies: evolution, galaxies: dwarf, galaxies: clusters: Virgo



**Figure 1.** Example simulated galaxy image with a SAURON-sized field of view overlapped, together with simulated stellar velocity  $V$  and velocity dispersion  $\sigma$  maps with added errors, shown at the beginning (top) and at the end (bottom) of the evolution. Field size, spectral signal-to-noise ratio, seeing effects, etc. are free parameters, scaleable to a given object/instrument.