

Highlight

A MUSE VIEW ON GALACTIC GLOBULAR CLUSTERS

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The study of the dynamics of Galactic globular clusters has always been limited by the relatively low number of stars accessible to velocity measurements. Yet we might just be witnessing the disappearance of this limitation. The combination of precise proper motion measurements and integral-field spectroscopy promises to provide a three-dimensional view of the central dynamics. Meanwhile the outer regions of the clusters can nowadays be thoroughly studied with multi-object spectrographs. These data will give us important insights into some of the open questions in globular cluster research. Do intermediate-mass black holes exist in their centres? Do different populations have different kinematics? How do binary stars influence the cluster evolution?

In my talk, I want to give an overview of our current view of the dynamics of globular clusters and introduce our campaign to learn more about them using the MUSE integral field spectrograph. It allows us to obtain samples of several thousands of stars per cluster and study the cluster kinematics in great detail. Our survey currently includes 25 clusters and I will present the results we obtained on their central dispersion and rotation fields. In addition, for many of the clusters multi-epoch data are already available, opening up the possibility to study binary stars.