The Color-Magnitude Relation of Early-Type Galaxies through the Analysis of Lick Indices

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Abstract / Understanding the processes involved in the formation and evolution of galaxies is a hot topic in Astronomy. In particular, early-type galaxies display an interesting property that make them good targets to try to unveil such processes: in a color-magnitude diagram, they follow a strong photometric relation that displays similar characteristics regardless the environment in which they reside. That relation is known as *red sequence* or *color-magnitude relation* (hereafter, CMR) and it is interpreted as a mass-metallicity relation. However, it is not clear yet how the different chemical species that dominate the stellar populations of these kind of galaxies contribute to establish its features.

The Lick/IDS absorption-line indices allow to derive ages and metallicities of old stellar systems from low-resolution spectra and through their comparison with stellar population models. Also, each index is dominated by specific chemical species. In this poster we present preliminary results of the analysis of the CMR defined by early-type galaxies located in the Virgo cluster and the Stripe-82 region, through their Lick indices obtained from SDSS spectra. Our aim is to try to disentangle if the CMR can be explained through the dependencies of the colors and/or luminosities on particular indices and, as a consequence, on specific chemical species.

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