

CALIFA view of UGC9837

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Abstract

A detailed study of the spiral galaxy UGC9837 is carried out based on the IFU spectroscopic data from the pilot survey of the Calar Alto Legacy Field Survey (CALIFA). The integrated, radial and spatially resolved properties of the ionized gas are studied. In addition the possible biases caused by using a fixed aperture in studying galaxy properties at different redshift are simulated. UGC9837 was observed as part of the CALIFA pilot survey using the PMAS PPAK integral field unit. The spectra is reduced and calibrated and the stellar and ionized components separated. Using typical strong emission line ratios of the ionized gas, the source of ionization, the dust extinction, the star formation rate, the electron density and the oxygen abundance are studied. We find out that the lack of spatial coverage indeed causes biases in the derived galaxy properties. We also demonstrate that use of fixed aperture in studying the properties of galaxies at different redshift can cause important biases distorting the results derived for the lower redshift objects. CALIFA will remove these biases in ~ 600 galaxies of the Local Universe.