

THE SPATIALLY RESOLVED STAR FORMATION HISTORY OF GALAXIES IN THE CALIFA SURVEY

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The Calar Alto Legacy Integral Field Area (CALIFA) is a pioneer 3D IFU survey of 600 nearby galaxies that we are obtaining with PPAK@3.5m at CAHA (Sánchez et al. 2012; Husemann et al. 2013). We have applied the fossil record method based on spectral synthesis techniques to recover the star formation history (SFH), resolved in space and time (Cid Fernandes et al. 2013,2014), in elliptical, and disk dominated galaxies with masses from 10^9 to $10^{12} M_{\odot}$. We derived the radial structure of the stellar mass surface density, and the stellar population age and metallicity as a function of the total stellar mass and morphology for a subset of 200 galaxies that are well distributed in the color-magnitude diagram. We also compared the integrated with the spatially resolved stellar population properties, and derived the ratio of the radii that contains half of the mass and half of the light (a_{50}^M/a_{50}^L). We estimated the age and metallicity gradients and a_{50}^M/a_{50}^L as a function of the Hubble type, bar and unbarred galaxy classification and total angular momentum. Furthermore, we presented the SFH of few mergers in the CALIFA sample, and their star formation rate surface density as a function of the merger stage. We can confirm our previous results (Pérez et al. 2013, González Delgado et al. 2014) that most of the CALIFA galaxies grew inside-out.

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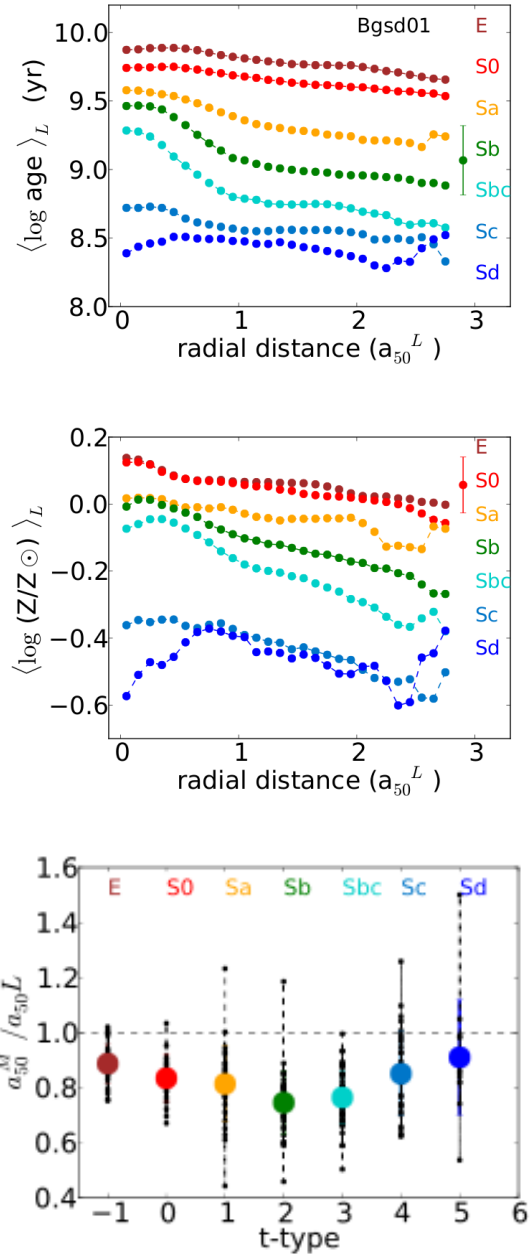


Fig. 1. The radial profiles of the ages and metallicity stacked by Hubble type; and the ratio of the radius that contains half of mass and half of the light.