with Galaxy Zoo 1 data and the star formation history fitting models from Bruzual & Charlot (2003).

We found an underpopulation of spiral and disk like galaxies and an overpopulation of interacting galaxies, the last seems consistent with the scenario where, at low z, the interaction mechanism is responsible for at least part of the E+A galaxies.

The star formation history (SFH) fits most of the spectra indicating an increased star formation around 2 Gyr in the past. Additional parameters like dust internal extinction need to be included to improve the fitting.

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THE ROLE OF THE COROTATION RESONANCE IN THE SECULAR EVOLUTION OF DISKS OF SPIRAL GALAXIES

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The corotation resonance plays an important role in the evolution of the disks of spiral galaxies, and in particular, of our Galaxy. Its effect on the chemical abundance gradients is even a tool to estimate the age of the present spiral arm structure, which we find to be long-lived, contrary to a recent common belief. The metallicity gradients usually decrease in the inner regions and become flat or rising at larger radii. In several galaxies, including the Milky Way, one observes not only a change in the slope of the abundance gradient, but also an abrupt step in metallicity at corotation. This step is because the corotation resonance separates the disk of a galaxy in two regions (inside corotation and outside corotation) which are isolated one from the other, so that the two sides evolve in an independent way. The barrier between the two regions is the result of the flow of gas in opposite directions on the two sides and by the ring-shaped void of gas observed at corotation. We investigated a sample of galaxies, which have a known corotation radius, and for which there are measurements of abundance gradients of Oxygen available in the literature. A very good correlation is found between corotation radii and the radii at which there is a break in the slope of the gradients. Besides this, an independent effect of corotation is a minimum of star formation associated with the minimum velocity at which the interstellar gas feeds the spiral arms (seen as potential wells and star-formation machines). Still another effect is the scattering of stars by the resonance, which causes their migration to different galactic radii.

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STAR FORMATION HISTORY OF CALIFA GALAXIES IN THE OPTICAL AND UV

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CALIFA is a spectroscopic survey of 600 nearby galaxies ($0.005 < z < 0.03$). CALIFA provides a unique and very useful set of data for galaxies covering the color-magnitude diagram from Mr = -23 mag to Mr = -18 mag, a large range of masses (109-12 $M_{\odot}$) and morphological types (from E to Sc), and allow us to obtain the spatially resolved properties of galaxies. The spectral range of the CALIFA sample is ideal for studying stellar populations because it contains the Balmer series and the 4000 Å break, among other useful tracers. However, there are age-metallicity-extinction degeneracies, which produce uncertainties in estimation of the physical properties of the stellar population. So we combine CALIFA spectroscopic data with photometric data in the ultraviolet range obtained with the GALEX mission in order to break these degeneracies, including data that provide additional information about the young stellar populations, which contribute to a lesser extent in the optical range. We perform a full spectral synthesis at the optical range plus the two UV GALEX filters with a new version of the fitting code STARLIGHT.

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