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Title: The Evolution of Red Spiral Galaxies

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Abstract: The evolution of a galaxy is largely driven by its intrinsic properties as well as the environ- ment it

resides in. Both these factors contribute to the shape and the observed properties of a galaxy. Many studies in the past have shown that early-type galaxies are generally red and elliptical with an old stellar population whereas younger galaxies are blue and disc- dominated with active star formation. However, recent observations of red spiral galaxies have questioned this general trend. By making use of the photometric and spectroscopic data provided by the Galaxy and Mass Assembly (GAMA) survey, we have created a sam- ple of red spiral galaxies in the redshift range 0.002 to 0.06. We aim to determine the reason for the optical red colour of these rare spiral galaxies. In order to do this, we have studied the different properties of these galaxies and compared them to their blue counterparts. Our analysis showed that red spiral galaxies are relatively more evolved. For some of them, their red colour can be attributed to their high metal content. These galaxies are in general more massive than the other spiral galaxies and have very low ongoing star formation. Also, red spirals are present in high density environments.

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