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Título: Measuring H α fluxes of nearby galaxies with J-PLUS photometric data

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Apellidos y nombre de los autores: The J-PLUS collaboration

Resumen:

The Javalambre Physics of the Local Universe Survey (J-PLUS) is now being carried at the Observatorio Astrofísico de Javalambre (OAJ) in Teruel, Spain. With an 83 cm telescope (T80) and a wide field camera (T80Cam), it will cover $\sim 8500 \text{ deg}^2$ of the northern sky in the following years. The camera is equipped with a set of 12 broadband, medium-band, and narrow-band filters placed all along the optical wavelength range. The broadband ones are in common with SDSS, and the medium and narrow-band ones are placed in key stellar features to characterize the stellar types of millions of stars in the Milky Way.

Two of the narrow-band filters are of special interest for galaxy evolution studies; These are J0378, placed in the rest-frame wavelength of the forbidden [OII] emission, and J0660, centered in the H α + [NII] rest-frame wavelength. The latter of these two filters permits us to study the H α emission of thousands of galaxies in the nearby Universe ($z < 0.015$), resolving individual star-forming regions within them.

In this talk, I will briefly present the main steps that are taken to retrieve a clean and unbiased measurement of H α from J-PLUS images. After this, I will present a comparison between our photometric measurements and spectroscopic ones, as measured by SDSS and the CALIFA surveys, for a sample of ~ 50 galaxies and star-forming regions already observed with T80Cam/T80. Finally, I will present the capabilities of J-PLUS to infer the H α Luminosity Function in the local Universe, which will be used to compute the present Star Formation Rate with an unprecedented set of homogeneous data.