

Galaxy merging features looming in the background

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The life and evolution of galaxies in our Universe is complex and different for each of them. One of the most known and relevant stages they go through is the merging process, where individual galaxies approach each other and become one system. We are nowadays certain many of them are the product of former galaxies that merged. Such is the case of the Milky Way, archeological studies of its stellar populations have shown the trace of small galaxies that merged with it. Moreover, a major merging phase is on its way, as the neighbor Andromeda galaxy currently approaching to us.

In order to understand both what will happen with our galaxy and galaxy evolution itself, we need to find galaxy mergers in our images of the sky. In this seminar, I will explain our novel methodology for finding galaxy mergers using the low signal to noise S/N signal surrounding them in the images. We showed it is possible in Suelves, Pearson & Pollo (2023), and we are currently developing our understanding of it with the goal of applying it to the upcoming large scale LSST and Euclid surveys.

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