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Impact of blending on DC2 data: Tools and analysis

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Galaxy clusters trace the highest peaks in the density of the Universe. Therefore, their abundance is a powerful probe to constrain cosmological parameters, expansion of the Universe and give information on the growth of structures. However, since their density of galaxies is significantly higher, these latter may appear to overlap on the line of sight and have their respective fluxes blended. This effect, called blending, significantly distorts individual galaxy measurements such as their shapes used to measure the weak gravitational effect induced by massive structures.
This talk will introduce a new matching algorithm, friendly, for the detection and characterization of blended system from LSST-DC2 catalogs, in the context of the DESC collaboration. The purpose of this matching algorithm is to combine several matching procedures and to use well-defined blended systems in order to study their impact on weak lensing galaxy clusters masses, and at the end on cosmological parameters.

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