

David Martinez Delgado

Talk Title: Stellar Tidal Streams in the halos of nearby spiral galaxies

Talk Abstract: Within the hierarchical framework for galaxy formation, merging and tidal interactions are expected to shape large galaxies up to the present day. While major mergers are quite rare at present, minor mergers and satellite disruptions - that result in stellar streams - should be common, and are indeed seen in the halos of the Milky Way and the Andromeda galaxy. In the last years, the Stellar Tidal Stream Survey (PI. Martinez-Delgado) has obtained ultra-deep, wide-field imaging of some nearby spiral galaxies, based on data taken with a network of small robotic telescopes (0.1-0.5-meter). These images have revealed for first time external views of such stellar tidal streams at unprecedented sensitivity and detail. In this talk, I present the current results of our systematic survey of streams in the halos of nearby Milky Way-like galaxies with the ultimate aim of estimating the frequency, morphology and stellar luminosity/mass distribution of these structures in the Local Volume. I also discuss recent follow-up observations (e.g. Spitzer, Subaru) and N-body modelling of the most striking streams and what we can learn from the comparison of the results of this survey with the available Λ -CDM cosmological simulations of stellar halos.