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Tensions and anomalies: how well do we understand subtle dependencies of galaxy clustering on their properties?

Sunday 11 September 2022 19:00 (20 minutes)

Galaxies are known to be good although biased tracers of the underlying dark matter field. This bias, mostly driven by history of hierarchical clustering and galaxy/halo assembly history, results in the dependence of galaxy clustering on their physical properties which is not easy to model. On the other hand, making use of galaxies as tracers of cosmic structure for cosmological purposes strongly relies on our understanding of the relations between a galaxy, its DM halo and large-scale environment and its evolution. In my talk I will show some recent results from my group pointing to nontrivial dependencies between galaxy properties and their environment affecting clustering measurements, thus possibly contributing to some cosmic tensions, and pointing to the necessity of new generation of models and simulations.

Presenter: Prof. POLLO, Agnieszka (National Center for Nuclear Research)