Contribution ID: **265** Type: **Talk in a parallel session**

Accelerating Likelihood Exploration to Constrain Cosmological Parameters Using 2- and 3-Point Correlation Functions Emulators

Friday, 12 July 2024 15:20 (20 minutes)

Constraining cosmological parameters for galaxy clustering analyses using the three-point correlation function, despite being pivotal, has historically been limited by the high computational cost of modelling. Here, we introduce a new emulator, based on a convolutional neural network, developed within the framework of a Euclid Preparation Key-Project activity, which substantially accelerates Monte Carlo Markov Chains evaluation making a cosmological analysis feasible. As a result, we will also present how different applications of the new emulator can shed light on disentangling and investigating cosmological models in view of future survey datasets.

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Session Classification: Machine learning in astronomy: AGN, transient events, cosmology and others

Track Classification: Artificial Intelligence Methods (AI): Machine learning in astronomy: AGN, transient events, cosmology and others