

**HEP@VUB meeting: 12:00 -
13:00**

Report of Contributions

Contribution ID: 1

Type: **not specified**

Unsupervised Learning for Discovery and Simulation

Thursday, 5 November 2020 12:00 (30 minutes)

Many experimental results from both particle and astrophysics hint that the Standard Model (SM) of particle physics cannot be a complete theory of Nature. However, in its first years of operation, the Large Hadron Collider at CERN was very successful in excluding large regions of parameter space for potential models beyond the SM. We present how deep learning can be used to search for deviations from the SM in a model independent way. Beyond searching for new physics, we explore how generative models can greatly speed up the generation of events and the simulation of their interactions with complex detectors.