

Generative Models in CALICE

Wednesday, 15 January 2020 17:25 (20 minutes)

In this talk, we demonstrate the usage of Generative Adversarial Networks (GANs) and Variational Auto-Encoders (VAEs) for modeling the electromagnetic showers in the context of proposed International Large Detector (ILD), in the central region of Silicon-Tungsten (Si-W) Electromagnetic Calorimeter. After successful completion of the training processes, the properties of synthesized showers are compared to the showers from a full detector simulation using Geant4. Our results demonstrates the potential of using such networks for fast calorimeter simulation for ILD detector in the future and opens the possibility to complement current simulation techniques.

Primary authors: DIEFENBACHER, Sascha; EREN, Engin

Presenter: EREN, Engin

Session Classification: Generative Models