Contribution ID: **1014**   Type: **Parallel session talk**

High level reconstruction with deep learning at ILD full simulation

Saturday 20 July 2024 09:04 (17 minutes)

Deep learning can give a significant impact on physics performance of electron-positron Higgs factories such as ILC and FCCee. We are working on two topics on event reconstruction to apply deep learning; one is jet flavor tagging. We apply particle transformer to ILD full simulation to obtain jet flavor, including strange tagging. The other one is particle flow, which clusters calorimeter hits and assigns tracks to them to improve jet energy resolution. We modified the algorithm developed in context of CMS HGCAL based on GravNet and Object Condensation techniques and add a track-cluster assignment function into the network. The overview and performance of these algorithms will be presented.

We believe the sophisticated simulation developed for long time in ILD context is essential to try these novel technologies in event reconstruction. Comparison with other Higgs factory results as well as primal consideration on impact to physics performance will also be discussed.

Alternate track

1. Computing, AI and Data Handling

I read the instructions above

Yes

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