

High level reconstruction with deep learning for Higgs factories

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Deep learning can give a significant impact on physics performance of electron-positron Higgs factories. 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.

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