Contribution ID: **11** Type: **Poster**

ML-based Particle Flow reconstruction at the FCC-ee

We present an ML-based particle flow algorithm for the CLD detector at the FCC-ee. Particle candidates are built from hits and fitted tracks, both of which are represented as a graph. A geometric algebra transformer is then trained using object condensation loss to reconstruct a set of particle candidates from the hits and tracks. In the second step, additional heads are used to estimate the energy, momentum and PID of the candidates. Our algorithm improves over the baseline in terms of efficiency and energy resolution. We demonstrate the effectiveness of the approach using a dataset of 10-15 collimated particles resembling a jet at reconstructing their mass.

Recent talks: https://indico.cern.ch/event/1439509/timetable/#87-tracking-and-ml-based-parti, https://indico.in2p3.fr/event/32629/contrib

FCC technical note: https://repository.cern/records/n9wc2-09n03

Would you like to be considered for an oral presentation?

Yes

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Session Classification: Poster Session

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