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Particle Reconstruction with Graph Networks for irregular detector geometries

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We use Graph Networks to learn representations of irregular detector geometries and perform on it typical tasks such as cluster segmentation or pattern recognition. Thanks to the flexibility and generality of the graph architecture, this kind of network can be applied to detector of arbitrary geometry, representing the detector elements through a unique detector identification (e.g., physical position) and the readout value and embedding as vertices in a graph. We apply this idea to tasks related to calorimetry and tracking in LHC-like conditions, investigating original graph architectures to optimise performance and memory footprint.

Consider for promotion

Yes

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