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Jet as a particle cloud (20'+5')

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How to represent a jet is one of the key aspects of machine learning algorithms for jet physics. Motivated by recent progress in machine learning community on point cloud recognition, we propose a new approach that represents a jet as an unordered set of particles with their measured properties, effectively a "particle" cloud. Specialized algorithms for point cloud recognition, e.g., Dynamic Graph CNN, are explored, and the performance on jet classification is compared to alternative approaches using state-of-the-art 2D CNN models on jet images and 1D CNN models on jet constituent particles.

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