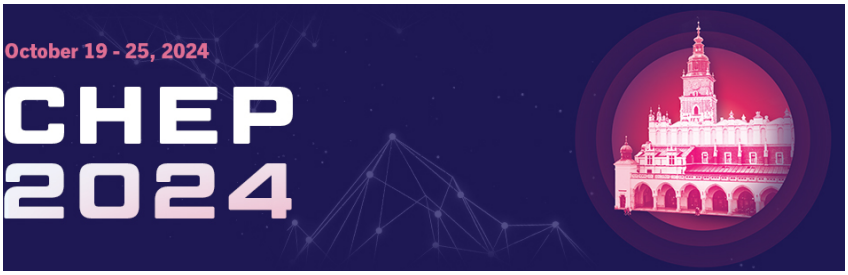

Contribution ID: **78** Type: **Talk**

Towards Machine-Learning Particle Flow with the ATLAS Detector at the LHC

Tuesday 22 October 2024 14:42 (18 minutes)

Particle flow reconstruction at colliders combines various detector subsystems (typically the calorimeter and tracker) to provide a combined event interpretation that utilizes the strength of each detector. The accurate association of redundant measurements of the same particle between detectors is the key challenge in this technique. This contribution describes recent progress in the ATLAS experiment towards utilizing machine-learning to improve particle flow in the ATLAS detector. In particular, point-cloud techniques are utilized to associate measurements from the same particle, leading to reduced confusion compared to baseline techniques. Next steps towards further testing and implementation will be discussed.

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Session Classification: Parallel (Track 5)

Track Classification: Track 5 - Simulation and analysis tools