



MUON ISOLATION

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ATLAS EXPERIMENT

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Abstract: The ATLAS detector at the LHC is a large hadron collider (LHC) detector. It is composed of several sub-detectors, including the inner tracker, calorimeters, and muon spectrometer. The muon spectrometer is a key component for identifying muons produced in high-energy collisions. This poster discusses the muon isolation algorithm used in the ATLAS experiment, which aims to reduce the background from other particles and improve the signal-to-noise ratio for muon identification.

Signal, Background, Fitting

Results

Efficiency and Scale Factor

Conclusions

Classifying Jets with Graphical NeuralNet and Boosted Particle Flow

Abhishek Das, Johan Sebastian Bonilla, Brendan Regery, Reyer Band, Viniscus Mikuni

Abstract: The High Energy Physics (HEP) community has witnessed a paradigm shift in the classification of jets. This poster introduces a novel approach that combines Graphical Neural Networks (GNN) with Boosted Particle Flow (BPF) to improve jet classification performance. The GNN captures the complex relationships between particles in a jet, while BPF provides a robust and efficient way to handle the large amount of data generated in HEP experiments.

Particle Flow Algorithm

Results

Conclusions

PROPERTIES OF SILICON AND TIN NANOSHEETS

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Abstract: Silicon and tin nanosheets are two-dimensional materials that have attracted significant attention due to their unique electronic and optical properties. This poster reports on the synthesis, characterization, and application of these nanosheets. The study shows that the properties of these materials can be tuned by controlling their thickness and surface functionalization, making them promising candidates for various nanoelectronic and optoelectronic devices.

Experimental Setup

Characterization

Results

Conclusions

