

# 10th International Conference on Hard and Electromagnetic Probes of High-Energy Nuclear Collisions



Contribution ID: 70

Type: Oral Presentation

## Inclusive Jet Measurements in Pb-Pb Collisions at 5.02 TeV with ALICE using Machine Learning Techniques

*Tuesday, June 2, 2020 12:20 PM (20 minutes)*

Measurements of the jet spectra and nuclear modification factors for inclusive charged jets and inclusive full jets (containing both charged and neutral constituents) in Pb-Pb and pp collisions at  $\sqrt{s_{NN}} = 5.02$  TeV recorded with the ALICE detector will be shown. These measurements use a novel machine learning based background correction [1] which reduces residual fluctuations. The improved resolution gives opportunity for measurements to lower transverse momenta and larger jet radii ( $R$ ) than before. In this method, machine learning techniques are used to correct the jet transverse momentum on a jet-by-jet basis using jet parameters such as information about the constituents of the jet. Studies that investigate and estimate the fragmentation bias of this machine learning approach will also be presented. The  $R$ -dependence of the nuclear modification factor will be shown, which can provide insight as to how jets are modified by the medium and the medium response. Model comparisons will be shown where possible.

[1] R. Haake, C. Loizides, Machine learning based jet momentum reconstruction in heavy-ion collisions, arXiv:1810.06324 [nucl-ex] (2018).

### Collaboration (if applicable)

ALICE

### Track

Jets and High Momentum Hadrons

### Contribution type

Contributed Talk

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**Session Classification:** Parallel

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