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Type: **Talk**

## Mitigation of systematic errors induced biases in ML-based selection in HEP analysis

*Wednesday 25 August 2021 11:00 (30 minutes)*

One of the main limitations in particle physics analyses in which the signal selection is based on machine learning is the understanding of the implications of systematic uncertainties. The usual approach consisting in the training with samples ignoring systematic effects and estimating their contribution to the magnitudes measured on modified test samples. We propose here an alternative method based on data augmentation to incorporate the systematics at the training time, which provides both an improvement in the performance and a reduction in the biases.

### Is this abstract from experiment?

No

### Name of experiment and experimental site

N/A

### Is the speaker for that presentation defined?

Yes

### Details

Francisco Matorras

### Internet talk

Maybe

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**Session Classification:** Mini-workshop on Machine Learning for Particle Physics