



Contribution ID: 26

Type: Oral

Delphes 3: A modular framework for fast simulation of a generic collider experiment

Monday 1 September 2014 14:50 (25 minutes)

Delphes is a C++ framework, performing a fast multipurpose detector response simulation. The simulation includes a tracking system, embedded into a magnetic field, calorimeters and a muon system. The framework is interfaced to standard file formats and outputs observables such as isolated leptons, missing transverse energy and collection of jets which can be used for dedicated analyses. The simulation of the detector response takes into account the effect of magnetic field, the granularity of the calorimeters and subdetector resolutions. The Delphes simulation also includes a simple event display.

Summary

After a general description of the Delphes framework, several new features such as an emulation of the particle-flow algorithm, pile-up simulation, N-subjettiness, a simple b-tagging algorithm based on counting tracks with large impact parameter, will be discussed.

A typical use-case of the Delphes framework in the context of future collider experiments will also be presented.

Author: MERTENS, Alexandre Jean N (Universite Catholique de Louvain (UCL) (BE))

Presenter: MERTENS, Alexandre Jean N (Universite Catholique de Louvain (UCL) (BE))

Session Classification: Data Analysis - Algorithms and Tools

Track Classification: Data Analysis - Algorithms and Tools