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Jigsaw: A runtime-configurable HEP analysis framework

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Jigsaw provides a collection of tools for high-energy physics analyses. In Jigsaw's paradigm input data, analyses and histograms are factorized so that they can be configured and put together at run-time to give more flexibility to the user.

Analyses are focussed on physical objects such as particles and event shape quantities. These are distilled from the input data and brought to the analysis via ntuple wrappers, for which a base-class and some use-case examples are provided.

Manipulators can be applied to the events in order to calculate analysis-specific quantities and objects such as decayed particles and polarization angles. Jigsaw is shipped with a comprehensive collection of event cuts that can be composed at run-time via xml to build a cut-based analysis. Finally, histograms are defined externally via xml and filled at each stage of the analysis automatically.

As for now still a work in progress, an infrastructure is also present for the creation of ROOT trees and multivariate analyses.

Jigsaw was designed and coded by R. Di Sipio (disipio@bo.infn.it) and M. Romano (marino.romano@bo.infn.it). The code is publicly available on CERN SVN:

https://svnweb.cern.ch/cern/wsvn/atlasgrp/Institutes/Bologna/AnalysisFramework

Student? Enter 'yes'. See http://goo.gl/MVv53

no

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