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AIDA, JAIDA and AIDAJNI: Data Analysis using interfaces

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AIDA, Abstract Interfaces for Data Analysis, is a set of abstract interfaces for data analysis components: Histograms, Ntuples, Functions, Fitter, Plotter and other typical analysis categories. The interfaces are currently defined in Java, C++ and Python and implementations exist in the form of libraries and tools using C++ (Anaphe/Lizard, OpenScientist), Java (Java Analysis Studio) and Python (PAIDA).

JAIDA is the full implementation of AIDA in Java. It is used internally by JAS3 as its analysis core but it can also be used independently for either batch or interactive processing, or for web applications to access data, make plots and simple data analysis through a browser. Some of the JAIDA features are the ability to open AIDA, ROOT and PAW files and the support of an extensible set of fit methods (chi-square, least squares, binned/unbinned likelihood, etc) to be matched with an extensible set of optimizers including Minuit and Uncmin.

AIDAJNI is glue code between C++ and Java that allows any C++ code to access any Java implementation of the AIDA interfaces. For example AIDAJNI is used with Geant4 to access the JAIDA implementation of AIDA.

This paper gives an update on the AIDA 3.2.1 interfaces and its corresponding JAIDA implementation. Examples will be provided on how to use JAIDA within JAS3, as a standalone library and from C++ using AIDAJNI.

References:

http://aida.freehep.org/
http://java.freehep.org/jaida
http://java.freehep.org/aidajni
http://jas.freehep.org/jas3

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