NIMAX SYSTEM: A NEW APPROACH TO DEVELOP, ASSEMBLE AND USE MC EVENT GENERATORS IN HEP

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Abstract

The NIMAX system is a component-oriented software written in C++. Its central part is the framework that controls all the system's internal processes and provides a shell between the GUI and the rest of parts. Any component can be thought as a set of the standard interfaces between its algorithm and the outside world. A component can aggregate sub-components. Any component supports the inheritance. All components are packed with related software into independent modules loaded in memory as the DLLs. We have suggested several tools for component code generation. Many MC components have been implemented. A component is able to receive data sent by other components by means of a matching interface. Therefore, it opens a way for the flexible assembling of the components into powerful model projects. The framework offers many GUI services to have a convenient and productive user session: launching of components and projects, controlled edition of component parameters, substitution of sub-components, re-organization of component output, assembling of projects, execution of components or projects as separate processes, selection, histogramming and visualization of the data written in the data files and many others.

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