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GooFit 2.0

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The GooFit package provides physicists a simple, familiar syntax for manipulating probability density functions and performing fits, but is highly optimized for data analysis on NVIDIA GPUs and multithreaded CPU backends. GooFit is being updated to version 2.0, bringing a host of new features. A completely revamped and redesigned build system makes GooFit easier to install, develop with, and run on virtually any system. Unit testing, continuous integration, and advanced logging options are improving the stability and reliability of the system. Developing new PDFs now uses standard CUDA terminology and provides a lower barrier for new users. The system now has built-in support for multiple graphics cards or nodes using MPI, and is being tested on a wide range of different systems.

GooFit also has significant improvements in performance on some GPU architectures due to optimized memory access. Support for time-dependent four body amplitude analyses has also been added.

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