



Contribution ID: 63

Type: **not specified**

\texttt{GooStats}: A GPU-based framework for multi-variate analysis in particle physics

\texttt{GooStats} is a software framework that provides a flexible environment and common tools to implement multi-variate statistical analysis. The framework is based on C++11, CERN ROOT, MINUIT, and \texttt{GooFit}, a popular minimization engine that can run on general purpose graphics processing units. Running a multi-variate analysis in parallel on graphics processing units yields a huge boost in performance and opens new possibilities. The design and benchmark of \texttt{GooStat} will be presented along with its application to the analysis of solar neutrinos of Borexino and JUNO.

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Session Classification: Contributed talks session