

Fast Physics Monitoring

| * **[SUSY search for stop]* | [Till Eifert][<http://www-public.slac.stanford.edu/phonebook/dirsearch.aspx?lf=1&url=&gone=active&NAME=eifert>] | | CERN |
Project title: Fast Physics Monitoring (TADA)

Description: The Large Hadron Collider (LHC) at CERN leads the energy frontier of particle physics. With its unprecedented high collision energy and large dataset, the LHC can discover new physics phenomena at the TeV energy scale. In 2012 the LHC is running at slightly higher collision energy (8 TeV) and is expected to further increase the data set significantly ($\sim 4\times$).

It will thus be very intriguing to monitor the new data in as many signatures as possible to be prepared for possible surprises. For this purpose ATLAS has a "fast physics" monitoring system (known as TADA) which processes all new data as soon as it is recorded performing quick and robust analyses.

The goal of this summer project is to update the list of monitored signatures. In particular, implementing the latest Higgs search channels. But also the channels for SUSY, and other new physics searches will be implemented and updated. Within the project, we will be constantly looking at the most up-to-date 2012 ATLAS data as it is recorded. Most of the analysis infrastructure setup - including the relevant Monte Carlo datasets, the know-how of retrieving and processing data, and the analysis computing framework exist from 2011. This will make it easy for a bright student to contribute early on.