

TSKIM : a tool for skimming ROOT trees

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The same as many experiments, FERMI is storing its data within ROOT trees. A very common activity of physicists is the tuning of selection criteria which define the events of interest, thus cutting and pruning the ROOT trees so to extract all the data linked to those specific events. It is rather straightforward to write a ROOT script so to skim a single kind of data, for example the reconstructed one. This turns to be more tricky if you want to process also some simulated or analysis data at the same time, because each kind of data is structured with its own rules for what concerns file names, file sizes, tree names, identification of events, etc. TSkim has been designed so to ease this task. Thanks to a meta-data file which says where to find the run and event ids in the different kind of trees, TSkim is able to collect all the tree elements which match a given ROOT cut. The tool will also help when loading the shared libraries which describe the experiment data, or when pruning the tree branches. Initially a pair of PERL and ROOT scripts, TSkim is today a fully compiled C++ application, enclosing our ROOT know-how and offering a panel of features going far beyond the original FERMI requirements. In this talk, we plan to present the features of interest for any ROOT based experiment, including a new kind of event list, and emphasize the implementation mechanisms which make it scalable.

Primary author: CHAMONT, David (Laboratoire Leprince-Ringuet (LLR)-Ecole Polytechnique-Unknown)

Presenter: CHAMONT, David (Laboratoire Leprince-Ringuet (LLR)-Ecole Polytechnique-Unknown)

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