

Software Update from SLAC

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Status of Idmx-sim

- Rotations and translations of LHE input
 - Slic uses stdhep tools to do this
 - Ldmx-sim does not support stdhep input (probably doesn't need to)
 - Merging LHE source into GPS will get us everything we need to take stdhep steps out of the pipeline
 - Omar promised to do this by the end of the break
 - I will run full chain for a trident sample to validate after change
- Email Omar and I for access to ldmx-sw code

- General cleanup of code, with main goal of unifying the processors to all use the same schemes
 - Move collection name configuration to config.py
 - Switch all instances of TClonesArray to vectors
 - Use json histo config file in all AnaProcessors (more info later)
 - Add debug level to config.py for all processors
 - Some processors don't do much with debug, sometime someone should go through and unify a scheme for debug printouts
 - Check for 2019 trigger data, if not present fill 2016 trigger data
- Added VertexProcessor
 - Changed some details in event objects
 - Moved filling of some types of objects to utilities

JSON based Histogram Configuration

- New scheme for config of histos used in a specific instance of a HistoManager
 - JSON config file in analysis/plotconfigs configures histograms to fill
 - AnaProcessor pointed to a particular JSON via config.py
- Each histogram has a few configurable parameters
 - Binning
 - Titles
- Would could discuss how to make this more sophisticated in the future
 - One entry for per hybrid histograms instead of one per histogram
 - Active flag
- Plot extensions used for automation of handling during drawing step
 - 1D histos are `_h` and 2D histos are `_hh`

Next Steps for HPSTR

- Write AnaProcessor pair for VertexProcessor
- Add JSON configuration of selection cuts
 - Cutflow histogram and N-1 distributions automatically generated
 - First version will just use square cuts for all variables
- Change structure of event loop in Process to naturally allow skimming
 - Event fill call to be moved outside of NextEvent()
 - Logic should allow for any processor to skim out an event
- After all these are built, probably interesting to run on a significant fraction of 2016 with hpstr and start cross-validating 2016 results
- Start porting stats tools into hpstr