Skimming in Zztop

Ricardo – SLT meeting

Skimming in ZZtop

- ZZtop updated to do skimming and slimming (only in my area now)
  - Uses Multiple Stream Manager (MSMgr)
  - Actually very easy – the basis was already done in ZZtopFilterBase – difficulty was knowing where to look
- Need to:
  1. Create a new MSMgr-derived output stream
  2. Add list of algorithms which accept events into stream
  3. Define stream content (which collections get written to stream)
- Several ways to select events:
  - Define list of filter algorithms which can select events (OR)
  - Define list of filter algorithms which are required to select events (AND)
  - Define list of algorithms which can veto events (NOT)
- Chose to implement the OR, but can be easly changed

Slimming in ZZtop

- Several ways to define output stream content:
  - Add each item (collectio/key) explicitely
  - Define list of collectio/key to exclude and add all other input collections
  - Use predefined list of items maintained in convenient functions from PrimaryDPDMaker package

Skimming and slimming configuration

- Done through 2 flags and a list in ZZtop_master_jobOptions.py
  - ZZtopFlags.DoSkimming = True/False
  - ZZtopFlags.SkimAcceptAlgs = [list of filter algs]
  - ZZtopFlags.DoSlimming = True/False

- Details of e.g. output file content are hidden away in Zztop_master.py as usual – since they should not change often

Some numbers

- Pure skimming:
  - Running on 200 ttbar MC, and asking for 1 electron and 3 jets with p_T > 35GeV we get 90 events
    - No skimming: 104MB (200 events)
    - Skimming: 53MB (90 events)

- Skimming + Slimming:
  - Adding only basic physics objects to skimmed file: 2MB (90 events)
  - Adding basic physics + detailed performance & physics objects: 24MB (90 events)

Problems & next steps

- Problems:
  - Somehow adding trigger info to output file with PrimDPD functions doesn't work
  - Tried (briefly) to run ZZtop on output file but it didn't work "out of the box"

- Next steps:
  - Tidy up code and check it in to SVN
  - Finalize contents of slimmed output file
  - Make sure we can run ZZtop on slimmed/skimmed dAOD
  - Run on data