Data availability and production

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SLAC

Data location at SLAC

- Currently, data is produced and stored on SLAC NFS
- URLs for web access to all files are on Confluence:
  `https://confluence.slac.stanford.edu/display/hpsg/Finding+Data`
- This will change when we move production to JLab

Simulation stages

- "merged" stdhep (beam bunches):
  /nfs/slac/g/hps2/hps_data/stdhep/merged
- SLIC output (LCIO): /nfs/slac/g/hps2/hps_data/lcio
- Readout (LCIO, can be converted to EVIO):
  /nfs/slac/g/hps2/hps_data/readout
- Recon (LCIO and DST): /nfs/slac/g/hps2/hps_data/recon

Simulation samples

- Beam background
  - EGS5, MadGraph tridents, no preselection
  - No preselection, just run beam through the detector and trigger
- A'
  - A' tridents with beam background pileup
  - A' "trigger candidate" every 500 beam bunches
- Tridents
  - Trigger-enhanced MadGraph tridents with beam background pileup
  - Trident "trigger candidate" every 500 beam bunches

Simulation amounts

- Beam background
  - 1 million triggers per beam energy?
  - We currently have $\approx$2000 per beam energy (0.1 s of beam)
- A'
  - 100 million triggers per mass and beam energy
  - We currently have up to $\approx$20000 (1×10^5 unfiltered candidates)
- Tridents
  - 10% of the number of trident triggers we expect in data?
  - We don't really know how many that is; let's guess 20% of triggers are tridents
  - This is the only sample that doesn't actually exist yet (need to filter tridents)

Readout and recon collections

- Readout has hits, plus MC truth information:
  - SLIC collections (MCParticles, SimTrackerHits, SimCalorimeterHits) from "trigger candidate"
    - ★ Not usable for beam background
  - Readout timestamps (used to sync trigger, SVT hits and ECal hits)
  - RawTrackerHits are linked to SimTrackerHits
    - ★ In progress
- Recon has truth information, plus:
  - ECal hits: ECalCalHits
  - ECal clusters: EcalClusters
  - SVT clusters: StripClusterer_SiTrackerHitStrip1D
  - SVT stereo hits: RotatedHelicalTrackHits
  - SVT tracks: MatchedTracks
  - ReconstructedParticles