

Preparing for the mock data challenge

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Outputs

- Mock data sets: 1 week of data each
 - ▶ Primary generators limited to events that would pass a basic event filter: tridents with some trigger and kinematic cuts, plus secret signal
 - ▶ Overlay 1 μ s of beam background with each trident, run trigger and readout
- Beam background sample: 1 million triggers
 - ▶ Fully realistic — run 1 minute of beam electrons through the target (EGS5 scattering, full-diagram tridents, hadrons) and detector, run trigger and readout
 - ▶ Very resource-intensive, but needed to verify trigger and event filter

Major steps, in order

- Make beam background sample, run through SLIC
 - ▶ This has to go first, to test the trigger and the event filters
- Make trident and signal samples, run through SLIC
 - ▶ This is the bulk of the batch processing — a couple of months
- Run readout, recon and DST; release the MDC

Details

- Primary generators (tridents, hadrons): Takashi
 - ▶ MadGraph generators for BH and radiative tridents are ready to test
- Detector geometry
 - ▶ Deadline 11/11; what we have is good enough
- Tune/test trigger on latest beam background: Kyle
 - ▶ Disabling hot crystals seems adequate
- Various production tasks: merging primary generator outputs, running the generators and simulations, keeping batch jobs and files organized

Boring production tasks

- Oversampling EGS5 background
 - ▶ Generate $5e5$ bunches' worth of beam electron interactions and shuffle them into $5e7$ bunches
- SLIC installation and testing (2 tasks)
 - ▶ Install latest ilcinstall release at JLab, getting it around the firewall
 - ▶ We still have unexplained SLIC crashes/errors, must investigate
- LHE->StdHep
 - ▶ Tridents are fed into EGS5 to apply multiple scattering, EGS5 writes to StdHep file — this works
 - ▶ A' (even “prompt”) decay after the target so they get converted directly to StdHep — Matt has hps-java code for this, just need to make sure it does what I need
- Batch job engineering
 - ▶ We have the whole production chain (through recon) working for background+tridents; need more of the same for all the other stuff
 - ▶ Production runs in units of $5e5$ beam bunches; need to merge after readout so we don't have thousands of tiny files