Pass-2

HPS-JAVA Release: 3.4.0

DST-maker Release: 0.8

Run Spreadsheet: Google Docs

Batch Farm Scripts: `/u/group/hps/production/data/EngRun2015/pass2`

Outputs:

- **Disk:** `/work/hallb/hps/data/engrun2015/pass2`
    - All DSTs
    - Canonical and Calibration runs' full LCIOs
    - Skimmed LCIOs (Moller and Pulser)
- **Tape:** `/mss/hallb/hps/engrun2015/pass2`
    - Everything

Changes Relative to Pass-1:

- **ECAL**
    - FEE Gains
    - Time Calibration (channel skews and timewalk)
    - Updated Y-Shifts for Top/Bottom
- **SVT**
    - Multiple tracking strategies used
    - Use of surveyed positions (may or may not be better than design)
    - GBL tracks (separate track list)
    - TrackType object used to index strategy/GBL vs SeedTrack
    - Reconstruct e-e- pairs (Moller condidates)
- **DST**
    -
- **ETC**
    - Pulser and Moller skims (LCIO only)
    - Run DB

Steering Files:

Recon	`/org/hps/steering/recon/EngineeringRun2015FullRecon_Pass2.lcsim`
DQ	`/org/hps/steering/production/DataQuality.lcsim`
DQM	`/org/hps/steering/production/DataQualityRecon_Pass2.lcsim`
Pulser	`/org/hps/steering/production/PulserTriggerFilter.lcsim`
Moller	`/org/hps/steering/production/MollerCandidateFilter.lcsim`

Canonical Run:

- **5772, with Production V7 Trigger**

Calibration Runs (Unblinded):

Run	I (nA)	Description
5222	40	10kHz-Pulser-Only, SVT open
5228	10	10kHz-Pulser-Only, SVT open
5229	10	10kHz-Pulser-Only, SVT open
5393	40	10kHz-Pulser-Only, SVT@1.5
5546	50	10kHz-Pulser-Only, SVT@1.5
5747	20	v7, SVT@1.5
5749	30	v7, SVT@1.5->0.5
5754	40	v7, SVT@0.5
5755	60	v7, SVT@0.5

5756	50	FeeMask1, SVT@0.5mm
5757	50	FeeMask2, SVT@0.5mm
5774	50	10kHz-Pulser-Only, SVT@0.5mm
5777	50	FeeMask2, No-SVT
5779	30	Carbon, SVT@0.5mm
5781	2	CH2, SVT@?
5784	25	Straight, SVT@0.5mm
5785	25	Straight, SVT@0.5mm
5786	25	Straight, SVT@0.5mm

Collections:

Name	Type	Description
TriggerBank	LCGenericObject	
EpicsData	LCGenericObject	
ScalerData	LCGenericObject	
FADCGenericHits	LCGenericObject	
EcalReadoutHits	TrackerRawData	
EcalCalHits	CalorimeterHit	
EcalClusters	Cluster	
EcalClustersCorr	Cluster	
EcalClustersGTP	Cluster	
SVTRawTrackerHits	TrackerRawData	
StripClusterer_SiTrackerHitStrip1D	TrackerHit	
RotatedHelicalTrackHits	TrackerHit	
HelicalTrackHits	TrackerHit	
TrackData	LCGenericObject	
TrackResiduals	LCGenericObject	
SVTShapeFitParameters	LCGenericObject	
SVTFittedRawTrackerHits	LCRelation	
RotatedHelicalTrackMCRelations	LCRelation	
RotatedHelicalTrackHitRelations	LCRelation	
TrackResidualsRelations	LCRelation	
TrackDataRelations	LCRelation	
HelicalTrackMCRelations	LCRelation	
HelicalTrackHitRelations	LCRelation	
MatchedTracks	Track	
TargetConstrainedV0Candidates	ReconstructedParticle	
BeamspotConstrainedV0Candidates	ReconstructedParticle	
UnconstrainedV0Candidates	ReconstructedParticle	
FinalStateParticles	ReconstructedParticle	
BeamspotConstrainedV0Vertices	Vertex	

TargetConstrainedV0Vertices	Vertex	
UnconstrainedV0Vertices	Vertex	

Summary:

Job failure rate on the batch farm was 40% (3500 total jobs submitted, one per raw EVIO file).

Half of those failures were due to filesystem errors and nothing to do with HPS. These were dominantly early runs (before SVT went to 0.5 mm) due to ordering of job submissions.

The other half were due to hps-java with runs before SVT bias was automatically recorded. Those runs are not going to be very useful for SVT analysis anyway and require a new jar to fix.

Given these complications (and more), decision was made to let pass2 be and only resubmit failed jobs upon request.