



Beamtest MC status

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**Thanks to Michael, Joanne, Heather and Leon and
the pipeline users**



Data (re)processing

- **New BT release with GCRcalib included v6r0919p0**
- **Still to reprocess SPS data**
- **Bug fix? CalEnergyCorr not properly calculated in present data**
- **Reprocessing for PS / SPS**
 - **u37 75% full**
 - **Other disk – possible options?**
- **Processing for GSI**
 - **Need to test BTRelease on data**
 - **Pipeline scripts to be developed**



MC Problems – Suggestions – Improvements -- I

- **BeamtestRelease v6r0919p0**
- **Beam properties & setup for PS & SPS**
 - **G4 and BeamtestRelease JO generated from data**
- **Position of Ancillary (S3, SHole, EM Cal, Dump)**
- **CU updates**
 - **Table position**
 - **Tungsten layers thickness update**
 - **Calorimeter calibrations**
 - **Tracker ToT**
 - **Acd Digi**
 - **ACD support structure**
 - **MMS update**
 - **Air (not yet N) in CU**



MC Problems – Suggestions – Improvements -- II

- **Calibration flavor**
 - Vanilla
- **New features**
 - **Caltuple inclusion** – need modification of pipeline for MC in progress – needed by which analysis?
 - **Digi/Recon merging** – by hands
 - **SVAC from MC**
- **G4 modification**
 - **Hadronic Physics** – G4HadronPhys
 - LHEP, LHEP_BIC, LHEP_BERT
 - QGSP, QGSP_BIC, QGSP_BIC
 - GLAST, LC, Space Electronics
 - **EM range cutoff**
 - **BackSplash** in CAL & range
 - **MCS simulation** (need more stat)
 - **Low Energy EM physics**
- **Custom MC for e+ annihilation**



MC work done

- **Beam description for PS and SPS for all configurations**
 - Automated scripts for batch submission
 - Set of configuration
 - **Good runs:** <https://confluence.slac.stanford.edu/display/BeamTest/List+Of+Good+Runs>
 - **MC massive production confluence web page:**
<https://confluence.slac.stanford.edu/display/BeamTest/MC+massive+production>
- **Vanilla calibration**
- **Possible alternative Physics Lists to be checked**
- **New geometry for MMS**
- **New geometry for SPS beamline**
- **Set of Standard Configuration for all runs**
 - a set of order 1K MC runs
 - **Nomenclature – BT-#### (four last letter run number)**
 - **Link from DB?**

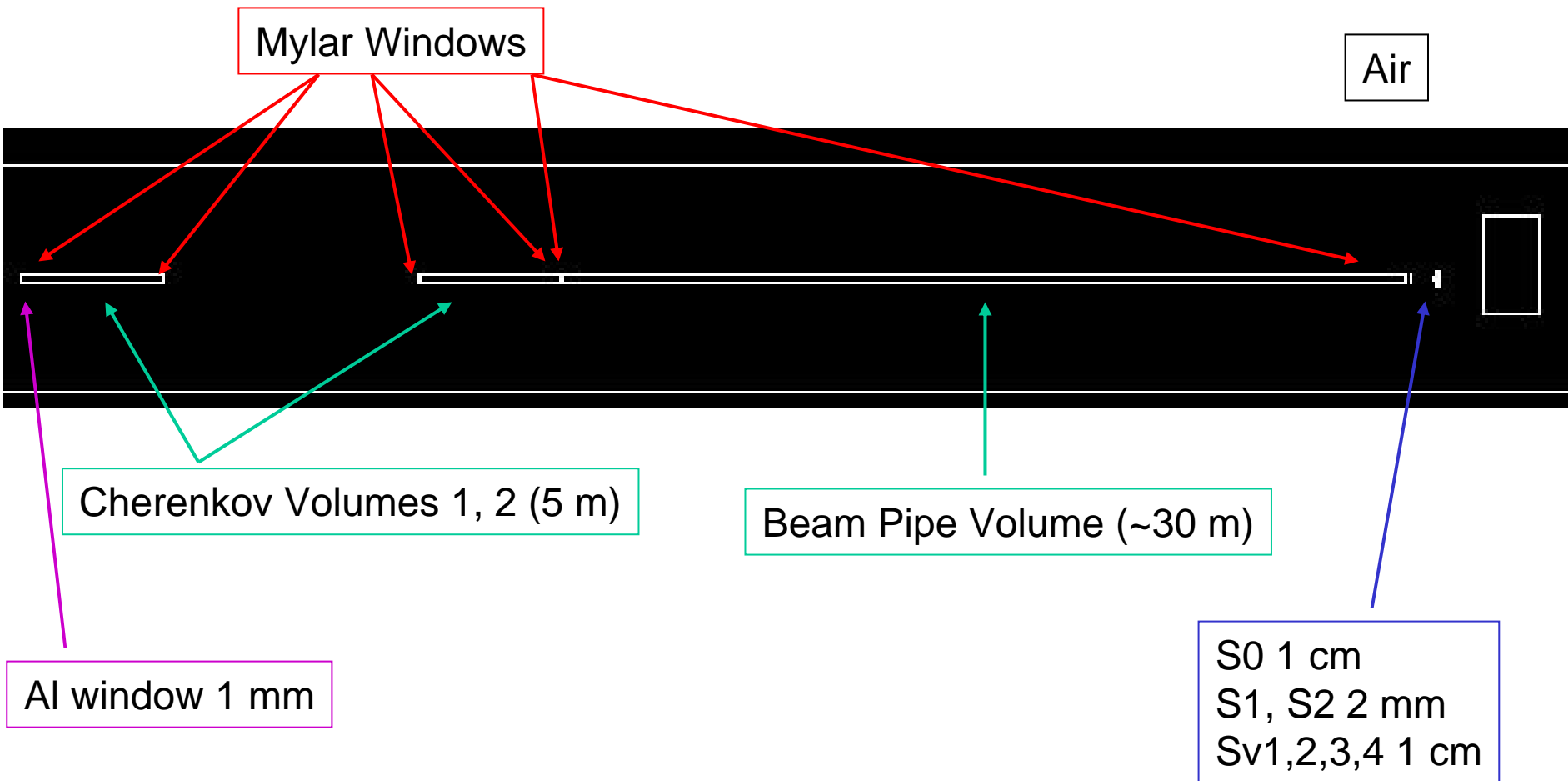


MC simulations strategy - I

- **CERN**
 - **beamtest06**
 - **Beam Setup**
 - **Geometry check**
 - **Trigger**
 - **Particle Cuts?**
 - **CU sim**
 - **Vanilla Calib**
 - **Table Position**
 - **JO check**
 - **Physics List**
 - **Particle Cuts optimization**

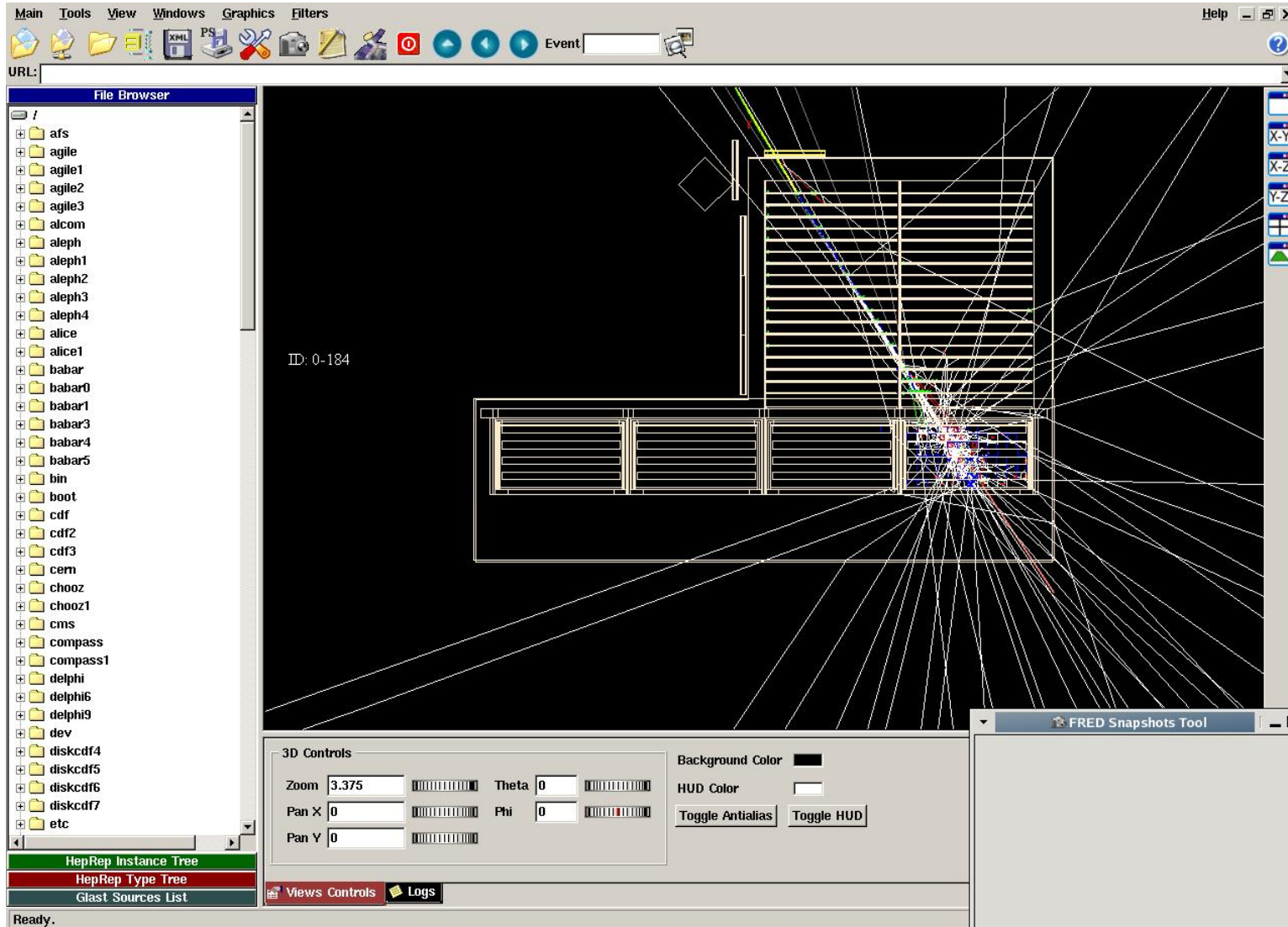


SPS beamline simulation





MMS simulation @ CU





Massive production tentative Schedule

- **JO setup for PS, SPS and GSI (first try) done**
- **Directory for BT-runs (almost done)**
- **First tests done**
- **Start time – today or tomorrow morning**
- **Stop time – depends on number of tasks (100k events for 800 runs) 1.5hr per run (if sequential)**
- **DB outage Dec 21**
- **Less runs (1 per important configuration)**



MC simulation physics checks

- **Geometry & Materials**
 - Beamline check at SPS
 - Material on CU tracker
 - Updated W thicknesses
 - Standalone tray simulation
- **Physics**
 - LowEnergy EM processes
 - LowEnergy “Penelope” processes
 - Hadron models
 - EM shower development
 - Delta ray production
 - Cut optimization
 - Tracking precision
 - Contact with EM G4 responsables