

Realistic Montecarlo

- **My** personal list of questions/issues
- **Incomplete** and biased towards my interest
- May be **inaccurate**!
- Enough with caveats...
- Main issue: many things changed since last round of analyses in terms of
 - Luminosity conditions
 - Trigger tables
 - Detector parameters (including coverage)
- Are we ready to **reproduce** all this in simulation?
- In short: **my answer is** no. We will have to parameterize our ignorance (**=systematics**)!

Realistic MC: known issues & questions

A. Cerri



Trigger

- **SVT** (B group mostly interested in SVT based triggers):
 - Beamlines: under generation, ready by mixing workshop.
 - Other SVT related issues:
 - **Clustering** is different and changed with respect to previous data chunk
 - **Hardware** incrementally changed (should be almost transparent)
 - Simulation has been improved / fixed, mostly new hardware, and small bugs. It is **backwards compatible**.
 - Error rate has been at the level of 10^{-3} - 10^{-4} for a long while, what is the effect on data? Do we care?
- **Level 2** decision code changes are not followed in L2Decision: only one single frozen (latest?) version
 - Should mostly be well-behaved with older trigger tables
 - No known issues: nobody really focusing on it though!
 - “No guarantee expressed or implied”: validate your own trigger!
 - New hardware?
- **Level 3**: current sample selected using SVT beamline at L3
 - Right now we are not doing this at all on MC!
 - No experimented way of running L3 exe on MC
 - Most likely not ready for this round either
 - Need kludges that let us understand biases! (eg what Jonas and co. did)
 - We cannot ignore this!

Luminosity weighting, beams

- Luminosity changes even within runs:
 - Profile:
 - Natural unit: run section
 - Montecarlo unit: entire run
 - We do not account for lumi changes within a run
 - Effect on trigger (prescales):
 - We need to account on a trigger path by trigger path basis
 - Can cook this up from online run summary at the run by run level
 - It would be nice to standardize recipe/ingredients (effective prescale, implementation at MC generation level etc.)
 - Going to a finer discretization possible, but not implemented
- Time dependent beamlines **should not be used** in MC, not in its generation nor in its analysis: **simply not implemented properly as of now! Please make sure you stick to this (and account for systematics)!**