

LHC HF WG — EvtGen topical meeting, June 7 2016
<https://indico.cern.ch/event/537435/timetable/>

Minutes are divided by discussion flow, not by talks.
Action items are listed with *

- EvtGen authors presented recent updates of the program. In particular discussed the updating of the DECAY.DEC compilation of decays. This is a large amount of work, not clear if really needed by the experiments. Most important issue is to match sum of exclusive (mainly semileptonic) modes to the inclusive ones. Feedback is welcome.

- Exploratory work being done for D0 mesons, not clear if a sustainable recipe is derivable. A more computer friendly interaction with PDG would allow faster turnaround, but difficult due to manpower.

* PDG representatives will be invited to future meetings on the same topic.

- Typical decays studied in B physics have comparably rare branching fractions (i.e. $< 10^{-3}$) so are irrelevant for the real sum. While the real mixture in DECAY.DEC is more relevant for b-jets.

- Some discussion also on polarisation and production; however this is a different important topic and will be subject of future discussion and interaction with the MC generators WG.

- Jets structure of b-jets is fundamental to be tuned and requires long term stability of code in large experiments in order to have consistent MC samples for these studies.

This need is in contrast to the B-physics need to have an up-to-date EvtGen.

- The possibility to change lifetimes and particles in a more user friendly way would be a welcome feature.

- Discussion on how particle properties are handled between the different softwares (e.g. Pythia, EvtGen, Geant): within LHCb everything is interfaced to a common database in order to have consistent treatment.

* Investigation whether this is possible at ATLAS and CMS would be welcome.

- Discussion on what to do with very small acceptance efficiencies: repeated hadronisation is not adopted by CMS.

* Investigation whether this is feasible is needed.

- ATLAS and CMS would like to have recent features developed within LHCb released in the master code. At the same time, for the reasons above at the moment are using quite old versions of EvtGen.

EvtGen will be ported to HepForge hosted git. This will make simpler to fork

it in the different experiments.

- Discussion on the possibility to have two EvtGen versions for ATLAS and CMS, one for b-jets and one for B-physics.

- * This requires that backgrounds to B-physics analyses are not evaluated relying on the large MC samples of the former, but rather based on a sample-by-sample case considering only the relevant ones.