*CP WG - Gamma with Trees*
*5th March 2009*

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# Stripping overview

# Preparing the Stripping

- Stripping = offline stage of data reduction. Still to be defined: all stripping selections, output streams and bandwidth division, in connection with HLT and computing resources.
- Stripping input:

  current computing model foresee to use rDST data, and this was the case for the DC06 stripping. Other data flows also under discussion. Do we need trigger output for stripping selections?
- Stripping output:

  ≈200 Hz is currently foreseen. This will include data for RD and CP measurements, first physics, charm physics etc… and all calibration channels (particle ID).

- We want to prepare to analyze the first ≈0.3 $fb^{-1}$ of data, to be collected in 2009-10, in a fast and efficient way. A reasonable amount of events to handle is $O(10^7)$ events per channel. At $L \approx 2 \times 10^{32}$ $cm^{-2}s^{-1}$ this corresponds to O(5 Hz) per channel.
- The challenge:

  can we make it, selecting all the events needed by the physics analysis (signal, background and control channels, in the relevant phase space regions)?

# Selections guidelines

- Would like stripping efficiency ≈ 100% on offline selected events.
  But some offline cuts can be changed if convenient.

- Mass sidebands, for B and all intermediate resonances, should be large enough to allow for background studies (physic peaking background, non resonant states, combinatoric).
- Downscaling of events in sidebands is a backup solution for reducing the rate. Will keep the option open, but not as first choice.

- Robustness. Will run the offline software after alignment and first PID calibration, further refinements will come continuously.
  - Use cuts loose enough to enable reprocessing of stripped events with minimal lost of signal. E.g.: loose PID cuts, if possible do not use estimated track errors. Use, as much as possible, few simple cuts to allow for variations in subsequent analysis.
  - Reject garbage asap (e.g. ghosts).

# Stripping Selections

- First results on selections presented during last LHCb week.
  More detailed studies are expected. Discussion on performance and strategy has to continue in the physics WG.
- Selections for other channels to be added.

- First exercise running all selections on DC06 data will probably give priority to channels more relevant for “first results”. But all channels will be finally included.
  Need to measure total mbias rates and correlations among all selections.
  Next step on DC09 as soon as available.

- Need better understanding of selected mbias content: high component of ghost tracks, amount of bb content, etc.

- Connection between selections and HLT to be studied:
  - correlation between mbias rejection performed in HLT and in selections.
  - effect of HLT selection on signal phase space.
  - eventually what is relevant is: eff(trigger) x eff(selection) and the properties of the selected signal events (any bias introduced?).