Abstract

We give here all the distributions used in the determination of the selection criteria for each of the HLT selections, as presented in [1].
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1 Selection criteria distributions

We give the distributions for all the HLT selection criteria after the generic HLT for signal and minimum bias. The definition of the cuts and their values can be found in [1].

For the study of the selection criteria two kind of plots are produced:

- Distribution of the variable under study for all different candidates selected by the final off-line selection (blue, dotted line) versus the candidates selected by the specific HLT selection when applying no cuts at all (red, solid line). The selections are run on signal events, after the off-line selection and the generic HLT trigger. Only the particles entering a fully associated candidate with respect to the true Monte Carlo decay are drawn and the histograms are not normalized. The vertical line (green, dashed) and the arrow represent the HLT selection cut.

- Distribution of the variable under study for all different candidates selected by the specific HLT selection when applying preselection cuts to reduce combinatorics. The preselected and associated candidates in the signal sample (red, solid line) and after the off-line selection and generic HLT trigger are drawn versus all the preselected candidates in the minimum-bias after the generic HLT (blue, dotted line). The full distributions are normalized to unity. The vertical line (green, dashed) and the arrow represent the HLT selection cut.

Note that the under/overflows are drawn in the first/last bins only whenever it is relevant to the selection cut.

\[\text{In the plots A.N. stands for arbitrary units.}\]
1.1 $B_s \rightarrow D_s h$ plots
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Figure 2: $B_s \rightarrow D_s h$, transverse momentum $p_T$ of $D_s$ products [MeV/c].

Figure 3: $B_s \rightarrow D_s h$, smallest impact parameter significance sIPS of $D_s$ products.
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Figure 129: $D'$, $\chi^2$ of $D'$ vertex.
References