

Contribution submission to the conference Heidelberg 2022

Measurement of the CMS offline tracking efficiency from the ratio of reconstructed D^* and D^0 mesons — •YEWON YANG and ACHIM GEISER — DESY, Hamburg, Germany

The efficiency for offline track reconstruction in CMS is measured directly from the data using a novel method. This method is based on taking the ratio of charm mesons reconstructed in the decay chains $D^{*\pm} \rightarrow K^\mp \pi^\pm \pi_s^\pm$ and $D^0 \rightarrow K^\mp \pi^\pm$, using the special kinematics of the so-called 'slow pion' π_s from D^* decay. It also requires the treatment of the a priori unknown mixture of prompt (from charm) and non-prompt (from beauty) contributions to the final states. Details of the method are explained and first results for the actual tracking efficiencies are presented.

Part: T
Type: Vortrag;Talk
Topic: 3.12 Experimentelle Methoden (allg.);
3.12 Experimental Methods (general)
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