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Prompt physics analysis from the trigger candidates at LHCb: strategy and new dedicated "TURBO" and PID calibration streams (20' + 5')

Friday, 5 August 2016 14:50 (25 minutes)

In Run 2, LHCb will collect the largest data sample of charm mesons ever recorded. Novel data processing and analysis techniques are required to maximise the physics potential of this data sample with the available computing resources and data preservation constraints. A new data-driven technique has been developed to measure the efficiency of selection requirements relying on particle identification. This includes the persisted trigger-level variables and offline-variables to be able to evaluate the efficiency both online and in future offline if a new development of reconstruction techniques are deployed. In this talk, we describe the full analysis chain used to obtain results in near-real-time for Run 2, and the steps necessary to obtain real-time results in the LHCb upgrade. The strategy of the procedure for the particle identification calibration and its performance is also illustrated.

Presenter: SCIASCIA, Barbara

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