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Particle identification at LHCb: new calibration techniques and machine learning classification algorithms

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Particle identification (PID) plays a crucial role in LHCb analyses. Combining information from LHCb sub-detectors allows one to distinguish between various species of long-lived charged and neutral particles. PID performance directly affects the sensitivity of most LHCb measurements. Advanced multivariate approaches are used at LHCb to obtain the best PID performance and control systematic uncertainties. This talk highlights recent developments in PID that use innovative machine learning techniques, as well as novel data-driven approaches which ensure that PID performance is well reproduced in simulation.

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Session Classification: Computing and Data Handling

Track Classification: Computing and Data Handling