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V0 Physics at LHCb. RIVET Analysis Module for Z Boson Decay to Di-Electron

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Abstract : The LHCb experiment is situated at one of the four points around CERN's Large Hadron Collider, being a single-arm forward spectrometer covering 10 mrad to 300 (250) mrad in the bending (non-bending) plane, designed primarily to study particles containing b and c quarks. Each one of LHCb's sub-detectors specializes in measuring a different characteristic of the particles produced by colliding protons, its significant detection characteristics including a high precision tracking system and 2 ring-imaging Cherenkov detectors for particle identification. The major two topics that I am currently concerned in are: the RIVET project (Robust Independent Validation of Experiment and Theory) which is an efficient and portable tool kit of C++ class library useful for validation and tuning of Monte Carlo (MC) event generator models by providing a large collection of standard experimental analyses useful for High Energy Physics MC generator development, validation, tuning and regression testing and V0 analysis for 2013 LHCb NoBias type data (trigger on bunch + bunch crossing) at √s=2.76 TeV.

Keywords : LHCb physics, RIVET plug-in, RIVET, CERN
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