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Flavour tagging performance studies and geometry optimisation for the vertex detector at FCC-hh

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This contribution describes the status of an ongoing effort to study the flavour tagging performance and optimise the vertex detector geometry of the FCC-hh detector. The beauty and charm tagging performances in proton-proton events are estimated using a full detector simulation based on Geant4. The simulation and reconstruction software chain used for this study was developed for linear colliders. The performances of different vertex detector geometries are compared for jets in a wide energy range. First, the arrangement of layers in the barrel part is varied. The geometry of the forward region is addressed in a second step.

Primary authors: COCCARO, Andrea (University of Geneva); PEREZ CODINA, Estel (CERN); ROLOFF, Philipp (CERN)

Presenter: PEREZ CODINA, Estel (CERN)

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