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Incorporation of LCFIPlus vertexing module in FCCAnalyses

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Numerous studies and measurements planned at the FCC-ee rely on efficient and accurate jet flavour tagging algorithms, which in turn heavily rely on secondary vertex reconstruction as b and c jets contain long-lived hadrons that decay hundreds of microns from the collision point. At the same time, vertex reconstruction is also an important tool to test the performance of different vertex detector designs.

LCFIPlus is a flavour tagging framework developed for linear colliders that includes a vertexing module. Here, we present the incorporation of this vertexing module into the FCCAnalyses framework. The flexible and configurable implementation consists of reconstructing the primary, the secondary vertices, and longer-lived V0s, which have been adapted both for rejection and to identify V0s. We show the performance of the vertex finding module and present the potential refining techniques that can be incorporated.

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