

A framework for vertex reconstruction in the ATLAS experiment at LHC

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In anticipation of the First LHC data to come, a considerable effort has been devoted to ensure the efficient reconstruction of vertices in the ATLAS detector. This includes the reconstruction of photon conversions, long lived particles, secondary vertices in jets as well as finding and fitting of primary vertices. The implementation of the corresponding algorithms requires a modular design based on the use of abstract interfaces and common Event Data Model. An enhanced software framework addressing various physics application of vertex reconstruction has been developed in the ATLAS experiment. The general principles of this framework will be presented. A particular emphasis will be given to the description of the concrete implementations, which are dedicated to diverse methods of vertex reconstruction, and to their expected performance with the early data of ATLAS.

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oral

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