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Track reconstruction and b-jet identification for the ATLAS trigger system

A sophisticated trigger system, capable of real-time track and vertex reconstruction,
is in place in the ATLAS experiment, to reject most of the events containing uninteresting background collisions while preserving as much as possible the interesting physics signals.
In this contribution we present the strategy adopted by the ATLAS collaboration for fast
reconstruction of charged tracks and vertexing in the trigger framework. Their application to different online selections and in particular to the b-jet selection is discussed.
Performance is reviewed with data from the 2011 LHC running period and
particular emphasis is given to the new challenges of the 2011 data-taking campaign,
where a high number of interaction per bunch crossing occurs, and to the b-jet trigger
plans to enhance the ATLAS physics potential for 2011 and 2012.

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