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Triggering Events with GPUs at ATLAS

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The growing complexity of events produced in LHC collisions demands more and more computing power both for the on line selection and for the offline reconstruction of events. In recent years, the explosive performance growth of massively parallel processors like Graphical Processing Units both in computing power and in low energy consumption, make GPU extremely attractive for using them in a complex high energy experiment like ATLAS. Together with the optimization of reconstruction algorithms exploiting this new massively parallel paradigm, a small scale prototype of the full ATLAS High Level Trigger exploiting GPU has been implemented. We discuss the integration procedure of this prototype, the achieved performance and the prospects for the future.

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