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## LHCb measurements at 13 TeV with online data analysis exploiting new trigger and real time alignment and calibration

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By using the very first proton-proton collision data of the LHC Run II, LHCb performed a series of measurements, notably including the cross-sections for quarkonia, beauty and charm productions. The results have been carried out by exploiting a new scheme for the LHCb software trigger, where the algorithm has been split in two stages to allowing for a delayed trigger decision. This enables the alignment and calibration to be performed in real time, hence achieving an optimal reconstruction performance already at the trigger level. In turn this gives the possibility to finalise physics analyses directly from data objects produced by the online reconstruction. Physics results will be discussed with some emphasis on the performance and technical implementation of this novel trigger approach.

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