A 30 MHz software trigger and reconstruction for the LHCb upgrade

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- The first level of the LHCb software trigger partially reconstructs and triggers events at a rate of 30 MHz for a budget of O(1M) CHF.

- Progress on all algorithms, mainly due to:

  - Better algorithm design

  - Better use of architecture (e.g. SIMD)

- Now LHCb is choosing between CPU and GPU approaches

LHCb-FIGURE-2020-007