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GPUs for fast triggering in NA62 experiment

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We discuss an approach for using commercial graphic processors (GPUs) at the earliest trigger stages in high-energy physics experiments, and study its implementation on a real trigger system in preparation.

In particular we focus on the possibility to reconstruct rings in a Cherenkov detector as building block of a selective trigger condition for rare decay search.

Latency and processing rate measurements on several state-of-the-art devices are presented, and the potential issues related to processing time jitter and data transfer throughput are discussed.

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