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Accelerating Monte-Carlo event generation on CPUs and GPUs

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For HL-LHC, recent studies have shown that around 20% of the total computing resources will be used for Monte-Carlo simulations. Without efficiency improvements the computing needs of the experiments will not be met by the available resources. Motivating research avenues in the realm of GPU acceleration.
In this talk, we will present the current status of the GPU and vectorised version of the widely used event generator MadGraph5_aMC@NLO.
We will discuss the performance improvements achieved so far, comparing the results with the original CPU version, and giving insights on the power consumption of these new approaches.

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