

# Speeding up MadGraph5 with GPUs

*Tuesday 10 September 2024 16:30 (7 minutes)*

The simulation of particle collisions at the Large Hadron Collider (LHC) is one of the most computing-intensive tasks in high-energy physics (HEP). The advent of High-Luminosity LHC is going to increase the demand for computing resources even more. In my lightning talk, I will discuss how we employ GPUs to speed up the MadGraph5\_aMC@NLO event generator, one of the most widely used tools in HEP to simulate the initial collisions of particles, showing the main results after profiling the code and the speedups achieved by the optimization.

## Summary

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