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Recasting Feynman rules with chirality flow

Monday, 21 October 2024 10:00 (15 minutes)

Since some 70 years, the default method of calculating scattering amplitudes is to use Feynman diagrams. In this talk, I will explore how standard Feynman rules can be significantly simplified by breaking up the Lorentz structure of spin and momentum into smaller objects, the left and right spinors. Adapting the method of color flow from the strong force, I show how amplitudes corresponding to Feynman diagrams can be written down in a transparent and intuitive manner. This simplifies the computation of Feynman diagrams significantly, and puts spin physics in a new light. In this talk, I will review the formalism, and present results from an implementation in MadGraph5_aMC@NLO.

Summary

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