Contribution ID: 44 Type: Parallel talk

Numerical evaluation of one-loop QCD amplitudes

Thursday, 8 September 2011 14:00 (25 minutes)

We present the publicly available program NGLUON allowing the numerical evaluation of colour-ordered amplitudes at one-loop order in massless QCD.

The program allows the evaluation of one-loop amplitudes for an arbitrary number of gluons. We discuss in detail the speed as well as the numerical stability. In addition the packages allows the evaluation of one-loop scattering amplitudes using extended floating point precision.

Furthermore we discuss the extension to one-loop amplitudes including massless quarks and show some phenomenological applications.

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Session Classification: Thursday 08th - Computations in Theoretical Physics

Track Classification: Track 3: Computations in Theoretical Physics - Techniques and Methods