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Automated one-loop calculations with Golem/Samurai

Thursday 8 September 2011 16:10 (25 minutes)

A program package will be presented which aims at the automated calculation of
one-loop amplitudes for multi-particle processes.
The program offers the possibility to optionally use either unitarity cuts
or traditional tensor reduction of Feynman diagrams, or a combination of both.
It can be used to calculate one-loop corrections to both QCD and electro-weak theory.
Beyond the Standard Model theories can be interfaced using FeynRules or LanHep.
A standard interface to programs calculating real radiation is also included.
It will further be described how the program detects and deals with numerical instabilities,
and how the rational terms can be computed efficiently.

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