Particle Theory Seminar

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"Hexagon Evaluations"

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Abstract:

Some of the virtual contributions necessary for the calculation of the NLO QCD corrections for pp → VVjj + X are presented. The hexagon heavy quark loops for the full quark mass dependence of H/A → jjj in gluon fusion at LO QCD including sfermion loops will be discussed as well as the hexagons and pentagons required for H → jjj via vector boson fusion. The calculation is performed using Feynman diagrams collected in topologically different subsets. Stability issues associated with the evaluation of the hexagons up to rank 5 are studied. The CPU time of the fortran subroutines for the hexagons is of order one millisecond.