EXAMPLES OF FEYNMAN DIAGRAMS WITH THE TIKZ PACKAGE

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Some example uses of the PGF/TikZ package for Feynman diagrams.
Not necessarily the most efficient method!
PGF/TikZ code: http://sourceforge.net/projects/pgf/
Source code for these diagrams: http://www.kiragrogg.com/interests/commands/TikzFeynmanExamples.zip

Figure 1. Sample interactions vertices between quarks and leptons and W or Z bosons.

Figure 2. Sample decays of W or Z bosons to quarks/leptons.

Figure 3. Sample self-interaction vertices for W and Z bosons.
Figure 4. Sample interactions vertices between quarks and gluons, or gluon self-interaction, with the red (r), green (g), blue (b) color flow indicated.

Figure 5. Feynman diagrams for sample QCD (left) and EWK/QED (right) processes possible from pp collisions.

Figure 6. Sample Feynman diagrams for W+jets production. On the left, starting from an up quark and gluon and resulting in electron, neutrino, and down quark (becomes a jet). On the right, starting from an up quark and down anti-quark and resulting in electron, neutrino, and two gluon jets.
Figure 7. Sample Feynman diagrams for \( W+4 \)jets production.

Figure 8. Feynman diagram for vector boson fusion Higgs production resulting in an electron, neutrino, and two quark jets.
Figure 9. Formation of a W boson through deep inelastic scattering of two protons, $p_1$ and $p_2$, shown as an interaction between two of the constituent particles with momentum fractions $x_1$ and $x_2$.

Figure 10. A pictorial representation of a collision with the hard interaction and the resulting fragmentation, hadronization, and decay.
Figure 11. Illustration of the evolution from the hard scattering parton to the jet in the detector.

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Figure 12. Loop with dashed line and various size labels.

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