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BSM Physics with Sherpa

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We present a fully automated framework as part of the Sherpa event generator for the computation of tree-level cross sections in beyond Standard Model scenarios, making use of model information given in the Universal FeynRules Output format. Elementary vertices are implemented into C++ code automatically and provided to the matrix-element generator Comix at runtime. Widths and branching ratios for unstable particles are computed from the same building blocks. The corresponding decays are simulated with spin correlations. Parton showers, QED radiation and hadronization are added by Sherpa, providing a full simulation of arbitrary BSM processes at the hadron level.

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