

Recasting scalar-tensor theories of gravity for colliders

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Diagrammatic approaches to perturbation theory transformed the practicability of calculations in particle physics. In the case of extended theories of gravity, however, obtaining the relevant diagrammatic rules is non-trivial: we must expand in metric perturbations and around (local) minima of the scalar field potentials, make multiple field redefinitions, and diagonalise kinetic and mass mixings. In this talk, I will motivate these models, introduce the package FeynMG—a Mathematica extension of FeynRules that automates the process described above—and describe an application to a model with unique collider phenomenology.

Alternate track

1. Beyond the Standard Model

I read the instructions above

Yes

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