

## Collider Phenomenology & LHC Recasting with MadAnalysis 5

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In this contribution, we report about the latest developments in MadAnalysis 5 relevant for recasting studies. The recasting interface has been extended to accommodate signal region combinations through full and simplified likelihoods which allow users to calculate more accurate global exclusion limits for new physics. Additionally, we will briefly introduce the new recasting capabilities of MadAnalysis 5 for long-lived particles and currently existing analyses. For this task SFS module within MadAnalysis has been enhanced by a particle propagation module that distorts particle trajectories along a helicoidal path. In addition to recasting, this allows users to design analyses for exotic particles and exploit their unconventional trajectories, which may remain undisturbed under the “fast-particle” assumption.

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