

Abstract Submitted
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MUSiC - Model-independent search for deviations from Standard Model predictions in CMS HOLGER PIETA¹, III Physics Institute A, RWTH Aachen University, CMS COLLABORATION — We present an approach for a model independent search in CMS. Systematically scanning the data for deviations from the standard model Monte Carlo expectations, such an analysis can help to understand the detector and tune event generators. By minimizing the theoretical bias the analysis is furthermore sensitive to a wide range of models for new physics, including the uncounted number of models not-yet-thought-of. After sorting the events into classes defined by their particle content (leptons, photons, jets and missing transverse energy), a minimally prejudiced scan is performed on a number of distributions. Advanced statistical methods are used to determine the significance of the deviating regions, rigorously taking systematic uncertainties into account. A number of benchmark scenarios, including common models of new physics and possible detector effects, have been used to gauge the power of such a method.

¹for the CMS collaboration

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