

Mining the LHC Data for Anomalies

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We describe a novel, model-independent technique of “rectangular aggregations” for mining the LHC data for hints of new physics. A typical (CMS) search now has hundreds of signal regions, which can hide the presence of potentially interesting anomalies. Applying our technique to the two CMS jets+MET SUSY searches, we identify a set of previously overlooked $\sim 3\sigma$ excesses, characterized by low jet multiplicity, zero b -jets, and low MET and HT. We discuss the presence of a bump in the similar ATLAS monojet search, and discuss a simplified model that provides an excellent combined fit to these excesses and discuss all additional constraints.

E-mail

monteuxa@uci.edu

Primary author: MONTEUX, Angelo (UC Irvine)

Presenter: MONTEUX, Angelo (UC Irvine)

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