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CheckMATE: Confronting your Favourite New Physics Model with LHC Data

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In the first three years of running, the LHC has delivered a wealth of new data that is now being analysed. With over 20 fb⁻¹ of integrated luminosity, both ATLAS and CMS have performed many searches for new physics that theorists are eager to test their model against. However, tuning the detector simulations, understanding the particular analysis details and interpreting the results can be a tedious task. CheckMATE (Check Models At Terascale Energies) is a program package which accepts simulated event files in many formats for any model. The program then determines whether the model is excluded or not at 95% C.L. by comparing to many recent experimental analyses. Furthermore the program can calculate confidence limits and provide detailed information about signal regions of interest. It is simple to use and the program structure allows for easy extensions to upcoming LHC results in the future.

Summary

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