Phenomenology 2014 Symposium



Contribution ID: 34

Type: not specified

CheckMATE: Confronting your Favourite New Physics Model with LHC Data

Tuesday 6 May 2014 15:00 (15 minutes)

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.

We present CheckMATE (Check Models At Terascale Energies) as a tool for theorists to help with these problems. The program accepts simulated events in many formats for any model that a theorist can invent. The program then determines whether the model is excluded or not at 95% CLs 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.

Author: TATTERSALL, Jamie (University of Heidelberg)

Co-authors: SCHMEIER, Daniel; DREINER, Herbi (Bonn University); KIM, Jong Soo; Prof. DREES, Manuel (University of Bonn)

Presenter: TATTERSALL, Jamie (University of Heidelberg)

Session Classification: SUSY III & Tools