

Global fits on BSM models



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As the number of parameters and experimental constraints grow, assessing the validity of BSM models becomes increasingly complicated and old-school parameter scans are insufficient. The optimal solution to this issue are global fits, which allow the construction of composite likelihoods incorporating all constraints and can use smart scanning strategies to sample thoroughly the parameter space. There enters the need for an open-source, multi-purpose, tool capable of performing global fits on a variety of different BSM models, and GAMBIT is one such tool. It is the amalgamation of frontline scanner algorithms, advanced calculations of physical observables and likelihoods, and a flexible and powerful interface with the user and external codes. In this seminar I will introduce the global fitting tool GAMBIT and describe its main features and use cases. I will then present public and preliminary results of global fits on several different BSM models including versions of the MSSM, singlet dark matter and heavy neutrino models..

When: Friday 1st March
Time: 2pm
Where: Level 1, Seminar Room 107,
10 College Walk, Clayton