



Contribution ID: 257

Type: **Oral**

Global Fits of the MSSM with GAMBIT

Tuesday 8 August 2017 17:30 (15 minutes)

The wide range of probes of physics beyond the standard model (BSM) lead to the need for tools that consistently combine experimental results to make the most robust possible statements about the validity of new physics theories and the preferred regions of their parameter space. In this talk, I will introduce a new publicly released code for such studies: GAMBIT, the Global and Modular BSM Inference Tool. GAMBIT is a flexible and extensible framework for global fits of essentially any BSM theory. The code currently incorporates constraints from the dark matter relic density, direct and indirect dark matter searches, limits on production of new particles from the LHC and LEP, complete flavor constraints from LHCb, LHC Higgs production and decay measurements, and various electroweak precision observables. I will discuss the code's capabilities and results of scans of the parameter space of the Minimal Supersymmetric Standard Model.

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Session Classification: Particle physics

Track Classification: Particle physics (energy frontier, intensity/precision frontier, other theory)