Contribution ID: **281** Type: **Experiment**

Phenomenological MSSM interpretation of the CMS 2011 5/fb results

We interpret within the phenomenological MSSM (pMSSM) results obtained by CMS using a pp data set collected in 2011 at 7˜TeV, corresponding to an integrated luminosity of 5/fb. The pMSSM is a 19-parameter realization of the MSSM defined at the SUSY scale, that captures most of the features of the general R-parity conserving weak-scale MSSM. A global Bayesian analysis is performed that yields posterior probability densities of model parameters, masses and observables. We provide conclusions that are more generic, and therefore more robust, than those derived in more constrained setups, including simplifies models and models that impose particular SUSY breaking schemes, such as the CMSSM. Our results also comprise implications for the MSSM Higgs sector, as well as for dark matter searches. Furthermore, we discuss which scenarios currently escape detection despite a high production cross section. Our study thus gives a coherent global picture of how the current CMS searches constrain supersymmetry in general.

Primary authors: RATHJENS, Denis (Hamburg University (DE)); VANELDEREN, Lukas (Hamburg University (DE))

Presenter: RATHJENS, Denis (Hamburg University (DE))

Track Classification: Poster