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SCYNET

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SCYNET (SUSY Calculating Yields NET) is a tool which aims to provide a measure for the agreement between a user-specified SUSY model and a large number of LHC search results on a very short timescale of milliseconds. Without such a tool, comparing a SUSY model with the experimental results through event generation and fast detector simulation takes O(30min), which is prohibitive for large-scale parameter scans or global fits in the phenomenology community. The approach of SCYNET is to use a neural-net based regression to parametrize the output of the well known tool CheckMATE.
In this talk, we present an overview over the design philosophy for specific applications (e.g. an 11-dimensional pMSSM) and for generic SUSY models, over the training and testing data generation, the neural net design and optimization, and on the final performance assessment.

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