DESY THEORY WORKSHOP

Particle Physics Challenges

25 - 28 September 2018
DESY Hamburg, Germany

HELMHOLTZ
RESEARCH FOR GRAND CHALLENGES

DESY.

Contribution ID: **18**　　　　　　　　　　　　　　　　Type: **not specified**

The prediction of the W boson mass in an R-symmetric SUSY model

Wednesday 26 September 2018 18:01 (20 minutes)

SUSY continues to elude direct searches at Run 2 of the LHC. Hence, indirect probes like electroweak precision observables are relevant to explore the parameter space of a model. The mass of W boson is such an observable where the LHC experiments are on their way improve on the uncertainties of the experimental result. The prediction for M_W has been studied in depth in the MSSM and NMSSM.

Here, we show the implementation of an on-shell calculation for M_W in the Minimal R-symmetric Supersymmetric SM (MRSSM) extending previous work. This also includes a comparison of the use of different renormalisation schemes and their respective uncertainties when applying them to the calculation of M_W in a BSM model.

Primary author: Mr DIESSNER, Philip (DESY)

Co-author: WEIGLEIN, Georg (DESY)

Presenter: Mr DIESSNER, Philip (DESY)

Session Classification: Parallel Session: Pheno 2

Track Classification: Particle Phenomenology