Contribution ID: **28** Type: **Poster presentation**

A search for the low-lying SUSY spectrum at the LHC consistent with the recent muon g-2 result

Tuesday, 31 August 2021 19:40 (4 minutes)

The recent experimental result on the muon g-2 from Fermilab has confirmed the old Brookhaven result and increased the tension with the Standard Model. We investigate the electroweak sector of supersymmetry to explain the muon g-2 anomaly. We perform a scan of the SUGRA parameter space with the help of a neural network to identify the regions consistent with the g-2 anomaly. It is shown that a gluino-driven radiative breaking of the electroweak symmetry is a natural outcome with the sleptons and weakinos being low-lying while the colored sector is heavy. To perform a SUSY search at the LHC using a set of benchmarks, we employ a deep neural network to train the signal and background. We show that benchmarks corresponding to slepton and sneutrino production can be discovered at HL-LHC and HE-LHC.
The talk is based on arXiv:2104.03839 [hep-ph].

Internet talk

No

Is this abstract from experiment?

No

Name of experiment and experimental site

N/A

Is the speaker for that presentation defined?

Yes

Details

Amin Abou Ibrahim, Dr., Institute for theoretical physics – WWU, Germany, https://www.uni-muenster.de/Physik.TP/en/

Primary authors: ABOU IBRAHIM, Amin (Institute for theoretical physics, Münster University); KLASEN, Michael; NATH, Pran (Northeastern University)

Presenter: ABOU IBRAHIM, Amin (Institute for theoretical physics, Münster University)

Session Classification: Poster Session