

## Explaining the CDF W-mass shift and $(g - 2)_\mu$ in a $Z'$ scenario and its implications for the $b \rightarrow s \ell\ell^+ \ell^-$ processes

*Saturday, November 18, 2023 9:10 AM (20 minutes)*

In the past few years, several indirect hints for New Physics beyond the SM arose in precision measurements, e.g.,  $(g - 2)_\mu$  and the W-boson mass. In this work, we consider a model containing new vector-like Fermion partner gauged under a new  $U(1)'$  symmetry. It is found that the latest CDF  $m_W$  measurement and  $(g - 2)_\mu$  can be simultaneously accommodated. We have also considered several other experimental constraints, including the neutrino trident production,  $Z \rightarrow \mu\mu$  decay, dimuon resonance searches at the LHC, etc. Implications for the  $b \rightarrow s \ell\ell^+ \ell^-$  process will be discussed. (This work is based on 2205.02205 and 2307.05290.)

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