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Explaining the CDF W-mass shift and (g-2)_\mu in a Zˆ\prime scenario and its implications for the b \to s \ellˆ+ \ellˆ- processes

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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, $Z \to \mu\mu$ decay, dimuon resonance searches at the LHC, etc. Implications for the $b \to s\ell^+\ell^-$ process will be discussed. (This work is based on 2205.02205 and some recent developments.)

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