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g–2 anomaly and minimal models for the Z'

Content

In this work, we present a solution of the experimental anomaly in $g - 2$ for the Z' charges allowed by the anomaly equations and the constraints coming from the Yukawa Lagrangian terms.

The Z' considered here has a minimum fermion content, i.e., our models contain only the standard model fermions, 3 right-handed neutrinos, and one exotic charged lepton. The allowed parameter space for $g - 2$ was obtained with a 68% confidence level. The region allowed by neutrino trident production $m_{Z'}/g_{Z'} > 0.75$~TeV was also found. A mass of 80~GeV was assumed for the exotic particle.

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