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Extra U(1) and Asymmetry

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Among the possible beyond the standard model (BSM) physics extra neutral gauge Z's are theoretically one of the well motivated. The measurement of the asymmetry at the LHC has been showed to be very important to detect this Z's and to point out some of their properties.

We have calculated the asymmetry at the LHC for a model in which the MSSM is extended by an extra U(1) gauge symmetry (MiAUMSSM) whose related anomalies are cancelled by the Green-Schwarz (GS) mechanism. We have performed the calculation of the asymmetry related to the process $pp \rightarrow e+e-$ for different definitions of the asymmetry at the LHC. Then we have studied its dependence on the charges of the model, giving suitable fits after having optimized the results.

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