

Erratum: Searching for flavored gauge bosons

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We provide a change to the LHC bounds on $B - 3L_i$ ($i = 1, 2, 3$) scenario in ref. [1]. In figure 3 of the original article [1], the LHC bounds on $B - 3L_i$ are depicted as solid and dashed brown curves. They are modified as figure 1 in this erratum.

Accordingly the last paragraph of section 7 of the original article [1] is updated as follows. For all $B - 3L_i$ cases, the LHC bounds become the strongest bounds for large $M_{Z'}$ region; $M_{Z'} \gtrsim 150$ GeV for $i = 1, 2$ cases and $M_{Z'} \gtrsim 500$ GeV for $i = 3$ case. In the $B - 3L_1$ case, the LEP bounds on $e^-e^+ \rightarrow \ell^-\ell^+$ processes give the most stringent bounds on small $M_{Z'}$ region, 10 GeV $\lesssim M_{Z'} \lesssim 150$ GeV. The $B - 3L_2$ case is particularly interesting. Due to the strong bounds from HFAG lepton universality test, only a small region 60 GeV $\lesssim M_{Z'} \lesssim 150$ GeV is consistent with all the constraints at 2σ .

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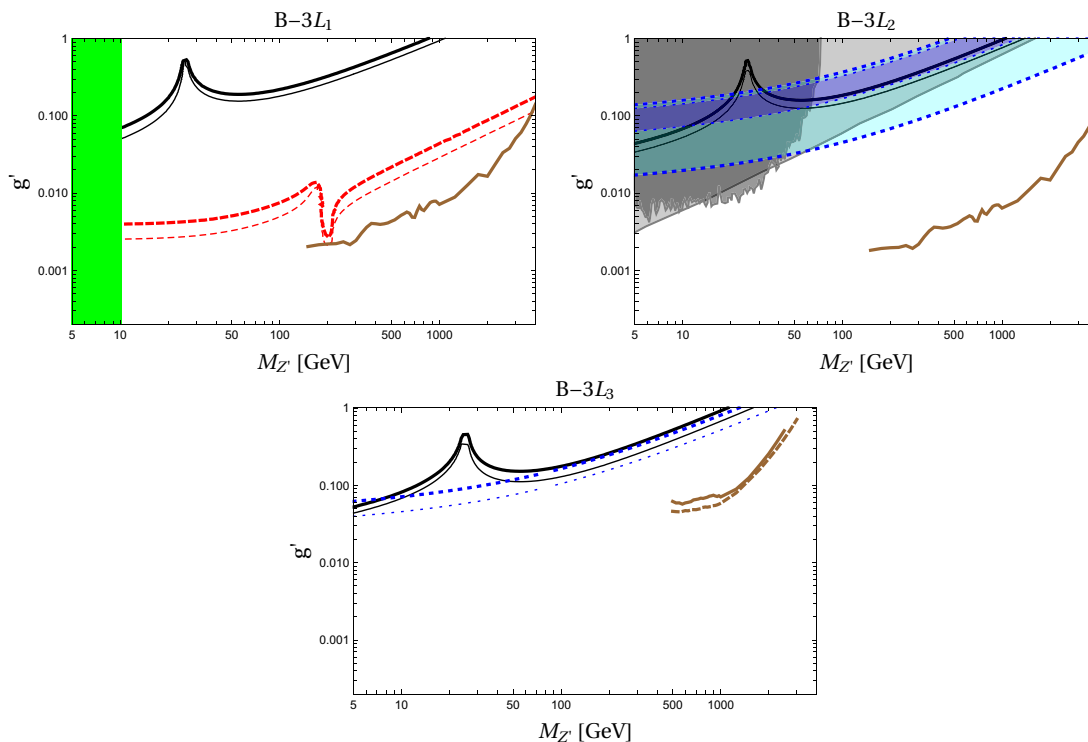


Figure 1. *Upper left panel:* bounds on g' and $M_{Z'}$ for the $B-3L_1$ model. The thin (thick) dashed-red and solid-black curves correspond to 1σ (2σ) bounds from LEP search [2] and SLD/LEP Z -decay lepton universality test [3], respectively. The green region is excluded by BaBar bounds [4]. The brown curve is the LHC bound from ATLAS observed limits. *Upper right panel:* bounds on g' and $M_{Z'}$ for the $B-3L_2$ model. The thin (thick) solid-black curve corresponds to 1σ (2σ) bound from the SLD/LEP Z -decay lepton universality test [3]. The blue (cyan) shaded region between thin (thick) dotted-blue curves is the 1σ (2σ) allowed region by the HFAG lepton universality test [5]. The brown curve is the LHC bound from ATLAS observed limits. The lighter- and darker-grey regions are excluded by neutrino-trident bound [6, 7] and the LHC bound for $Z \rightarrow 4\mu$ [8]. Therefore, only a small region $60 \text{ GeV} \lesssim M_{Z'} \lesssim 150 \text{ GeV}$ is consistent with all the constraints at 2σ . *Lower panel:* bounds on g' and $M_{Z'}$ for the $B-3L_3$ model. The thin (thick) dotted blue and solid black curves correspond to 1σ (2σ) bounds from the HFAG lepton universality test [5] and SLD/LEP Z -decay lepton universality test [3], respectively. The solid and dashed brown curves are the LHC bounds from ATLAS and CMS respectively.

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