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## Gravitational Leptogenesis in Bounce Cosmology

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We investigate whether successful Gravitational Leptogenesis can take place during an Ekpyrotic contraction phase. Two possible paths by which this can occur are coupling the Ekpyrotic scalar to a gravitational Chern-Simons term, or to a  $U(1)$  gauge field Chern-Simons term. These couplings lead to the production of chiral gravitational waves, which generate a lepton number asymmetry through the gravitational-lepton number anomaly. This lepton asymmetry is subsequently reprocessed by equilibrium sphaleron processes to produce a baryon asymmetry. We find successful Gravitational Leptogenesis to be possible in Ekpyrotic bounce cosmologies through both of these mechanisms.

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