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The Baryon Asymmetry from Supercooled Confinement

Thursday 26 September 2024 14:32 (16 minutes)

I will present a new framework for baryogenesis and leptogenesis based on a supercooled confining first order phase transition (PT).
With respect to the case of weakly coupled PTs, the rate asymmetry is enhanced by the decays of hadrons of the strong dynamics after the PT and washout effects from inverse decays are suppressed.
Therefore, our setup extends the parameter space of successful generation of the baryon asymmetry down to TeV scale PTs, making it testable with gravity waves at LISA and the Einstein Telescope.
I will discuss two specific realizations of our framework, one of baryogenesis and one of leptogenesis and show how our setup can make their phenomenology partially testable. I will finally comment about the connection between our framework with open SM problems in addition to the generation of the baryon asymmetry.

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