

What the heck happens when the Universe boils?

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Sourcing electroweak baryogenesis

Thursday, 8 December 2022 10:00 (1 hour)

Electroweak baryogenesis requires new physics at the electroweak scale, which can be tested by current and upcoming experiments. Unfortunately, theoretical predictions for the baryon asymmetry may vary by orders of magnitude, depending on the approximation scheme used. In this talk we revisit how the transport equations are derived in the vev-insertion approximation. A careful and systematic analysis shows that the leading order contribution to the source terms in the transport equations – which drive the asymmetry – exactly cancel, making this approach much less efficient than previously thought.

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