Synergies Towards the Future Standard Model

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DESY THEORY WORKSHOP

SYNERGIES TOWARDS THE FUTURE STANDARD MODEL

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Primordial Leptogenesis

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We propose a novel realization of Dirac leptogenesis by sourcing the required lepton asymmetry via inflationary dynamics. In particular, an asymmetry is generated in the scalar sector of the model during the reheating phase and is then transferred to the leptonic sector via Yukawa interactions and subsequently to a baryon asymmetry via weak sphaleron processes. The current scenario also offers a natural explanation for the smallness of the light neutrino masses, in agreement with current experiments.

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