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Flavored Resonant Leptogenesis in a Type-I Two Higgs Doublet Model

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In this work, we explore flavored resonant leptogenesis within the framework of a Type-I Two Higgs Doublet Model (2HDM), where the second Higgs doublet couples exclusively to right-handed neutrinos. We investigate how the flavor effects and flavor decoherence influence the generation of baryon asymmetry in the early universe. This model allows for a reduction in the mass scale of the right-handed neutrinos down to TeV while mitigating fine-tuning issues that typically arise in traditional resonant leptogenesis scenarios.

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