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Towards the minimal effective theory for leptogenesis, dark matter, and neutrino masses

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We present a bottom-up approach to an effective theory that simultaneously explains the matter–antimatter asymmetry via leptogenesis, the dark matter relic abundance via freeze-in or freeze-out mechanisms, and neutrino masses via the Weinberg operator. We show that, in the minimal scenario, only two new particles and a single portal operator coupling the visible and dark sectors are sufficient beyond the Standard Model. This contribution is primarily based on arXiv:2504.15164.

Pracovisko fakulty (katedra)/ Department of Faculty

Katedra Teoretickej Fyziky

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