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Modified Unruh effect from generalized uncertainty principle

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We compute corrections to the Unruh effect and related Unruh temperature from the generalized uncertainty principle. First, by following a heuristic derivation, and then a more standard calculation in deformed QFT. In the limit of small deformations, we recover the thermal character of the Unruh radiation. Corrections to the temperature at first order in the deforming parameter are compared for the two approaches, and found to be in agreement as for the dependence on the cubic power of the acceleration of the reference frame. The dependence of the shifted temperature on the frequency is also pointed out and discussed.

Reference paper: Eur.Phys.J. C78 (2018) no.9, 728 [arXiv:1804.05282 hep-th]

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