

Metric-affine bumblebee gravity: classical and quantum aspects

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In this talk, we consider the metric-affine extension of bumblebee gravity, derive the field equations, and show the influence played by the (local) Lorentz symmetry breaking on the non-metricity and torsion tensors, which are trivial in the metric approach. In particular, this model presents a projective invariance which, in turn, guarantees the absence of propagating ghost-like degrees of freedom. Apart from the classical aspects, we minimally couple $1/2$ -spin fields to gravity, and then we obtain the spinor effective action in the Einstein frame in order to get the one-loop divergence contributions to the fermionic effective action. This talk is based on the paper: JCAP 07 (2022) no.07, 018 (P. Porfírio et al.).