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# Local invariances in metric-affine theories and the heat kernel for non-minimal second-order operators

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We study non-linear transformations of the torsion tensor, and we find two such variations that close and give rise to Lie algebras. We focus on one of these, obtaining an invariant Lagrangian that significantly restricts the parameter space of couplings, providing its flat-space particle content. We argue that the invariance may yield a radiatively stable theory in the 1-loop approximation. Eventually, we sketch the derivation of the second Seeley-DeWitt coefficient for second-order non-minimal operators that is needed to perform the covariant 1-loop functional integration of quantum fluctuations for torsion excitations.

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