

Relaxing the Riemannian condition to incorporate geometric quantities such as *torsion* and *non-metricity* may allow to explore new physics associated with defects in a hypothetical space–time microstructure. Here we show that non-metricity produces observable effects in quantum fields in the form of 4-fermion contact interactions, thereby allowing us to constrain the scale of non-metricity to be greater than 1 TeV by using results on Bahbah scattering. Our analysis is carried out in the framework of a wide class of theories of gravity in the metric-affine approach. The bound obtained represents an improvement of several orders of magnitude to previous experimental constraints.