

# Non-dynamical torsion from fermions, inflation and CMBR phenomenology

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We discuss how inflation can emerge from a four-fermion interaction induced by torsion. Inflation can arise from coupling torsion to Standard Model fermions, without any need of introducing new scalar particles beyond the Standard Model. Within this picture, the inflaton field can be a composite field of the SM-particles and arises from a Nambu-Jona-Lasinio mechanism in curved space-time, non-minimally coupled with the Ricci scalar. The model we specify predicts small value of the  $r$ -parameter, namely  $r \cong 10^{-3\pm 1}$ , which nonetheless would be detectable by the next generation of experiments, including BICEP 3 and the AliCPT projects.