

# Poincaré gauge theory of gravitation

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## Abstract

We start from flat Minkowski spacetime with its group of motion, the Poincaré group (PG: semidirect product of translations and Lorentz transformations). We gauge the PG according to the recipe of Weyl, Yang-Mills, Utiyama, and Sciama and Kibble. We arrive at a Riemann-Cartan spacetime with torsion and curvature. The simplest Lagrangian leads to the Einstein-Cartan theory of gravitation, which is a viable gravitational theory. Prospects for further developments are discussed.

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