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Rectangular vielbein in Einstein-Cartan gravity

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We consider a model of Einstein-Cartan gravity with rectangular vielbein field introduced. A particular case with five internal indexes for the four-dimensional Riemann manifold is explored. As a result we obtain an additional vierbein field absent in the regular formulation of the Einstein-Cartan gravity with equal number of the Riemann and internal indexes. The new vierbein field allows to account the complete internal spin symmetry space of the Dirac fermions in an unified manner by an introduction of the term with γ^5 matrix in the original Dirac's equation through the new vierbein. We discuss a condition requested for the formulation of the theory of the new vierbein as a theory of new field field in the ordinary four dimension space-time.

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