GENERAL RELATIVITY WITH A POSITIVE COSMOLOGICAL CONSTANT Λ AS A GAUGE THEORY

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In the paper we show that the general relativity action (and Lagrangian) in recent Einstein-Palatini formulation is equivalent to the action (and Langrangian) of a gauge field.

We begin with a bit of information of the Einstein-Palatini (EP) action, then we present how Einstein fields equations can be derived from it. In the next section, we consider Einstein-Palatini action integral for general relativity with a positive cosmological constant Λ in terms of the "corrected" curvature Ω_{corr}. We will see that in terms of Ω_{corr} this action takes the form typical for a gauge field. Finally, we give a geometrical interpretation of the curvature Ω_{corr}.

Keywords: action integral, fiber bundle, connection in a principal fiber bundle and its curvature, pull-back of forms, Lie groups and their algebras.

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