

Higgs Inflation and the Ambiguities of General Relativity

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General Relativity (GR) exists in different formulations. They are equivalent in pure gravity but lead to distinct predictions once matter is included. After a brief overview of various versions of GR, I will highlight metric-affine gravity, which avoids any assumption about the vanishing of curvature, torsion or non-metricity. Using the example of a scalar field coupled non-minimally to GR, I will illustrate ambiguities that arise due to the choice of formulation. Among others, this has important implications for the proposal that inflation was driven by the Higgs field. Predictions are no longer unique, but I shall sketch possibilities for selecting preferred scenarios.

Orateur: ZELL, Sebastian (École Polytechnique Fédérale de Lausanne)

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