

## Gauge-Invariant Renormalisation Group Flows

In this talk I give a brief introduction to the functional renormalisation group, a non-perturbative framework widely used to study gauge field theories. While this approach has been successfully applied to Yang–Mills theory and quantum gravity, standard implementations generally modify gauge invariance. This modification obscures the physical interpretation of results. I present a novel formalism of renormalisation group flows that systematically resolves the modification of gauge redundancies. I apply this to quantum gravity and highlight the consequences of recovering a gauge invariant renormalisation group flow.

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