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TITLE:
The Stochastic Ricci Flow geometric quantization method and its phenomenological applications

ABSTRACT:
We have proposed a novel approach to investigate, in a geometrical way, the renormalization group equation for gravity theories. The Stochastic Ricci-Flow (SRF) hence introduced entails the breaking of the diffeomorphism invariance away from equilibrium, where the classical theory is recovered. Once expressed in terms of the Hamiltonian variables, SRF allows us to make contact, in the semi-classical limit, with the Wheeler-DeWitt equation. We show several phenomenological applications to cosmology and astrophysics, quantum field theory and to the measurement problem.