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Curvature perturbations in quantum cosmological spacetimes

Monday 23 September 2019 16:50 (20 minutes)

I will present some preliminary results on the evolution of perturbations in quantum cosmological spacetimes. The classical framework is derived with the Dirac procedure from the second order ADM formalism. Then the framework is quantised covariantly, i.e., respecting the symmetries of the phase space. Next, a semi-classical framework is established and the evolution of perturbations in semi-classical spacetimes is investigated for a range of cosmological fluids. A discussion on the final amplitude spectra will follow. I will conclude with an outlook for the future investigations in anisotropic cosmological spacetimes.

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