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An Estimate of Lambda in Resummed Quantum Gravity in the Context of Asymptotic Safety and Planck Scale Cosmology: Constraints on SUSY GUTS

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We use the amplitude-based resummation of Feynman's formulation of Einstein's theory to arrive at a UV finite approach to quantum gravity. We show that we recover the UV fixed point recently claimed by the exact field-space renormalization group approach. We use our approach in the context of the attendant Planck scale cosmology formulation of Bonanno and Reuter to estimate the value of the cosmological constant as $\rho_{\Lambda} = (0.0024 \text{ eV})^4$. We show that the closeness of this estimate to experiment constrains SUSY GUT models.

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