

Abstract Submitted
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Fermion Self-Energy during Inflation SHUN-PEI MIAO, University of Florida — I report on a computation of the one loop fermion self-energy for massless Dirac + Einstein in the presence of a locally de Sitter background. Dimensional regularization was employed and a fully renormalized result was obtained by absorbing all divergences into BPHZ counterterms. The physical motivation for this work is to check for graviton analogues of the enhanced quantum effects seen in this background for interactions which involve one or more undifferentiated, massless, minimally coupled scalars. Because gravitons possess the same crucial property of masslessness without classical conformal invariance, they should also show strong quantum effects during inflation, albeit weakened by the derivative coupling.

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