

Abstract Submitted  
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**Emergence of space-like correlations in loop quantum gravity** EUGENIO BIANCHI, Pennsylvania State Univ — Vacuum states of a quantum field in a curved space-time have non-trivial correlations at space-like separation. The stretching and squeezing of such correlations plays a crucial role in inflationary cosmology. In this talk I discuss a pre-inflationary scenario where space-like correlations of quantum perturbations arise from an initially unentangled state in loop quantum gravity. This scenario relies on recent results on squeezed vacua and entanglement in loop quantum gravity.

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