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Evolution of perturbations in anisotropic loop quantum cosmology¹ SREENATH VIJAYAKUMAR, IVAN AGULLO, JAVIER OLMEDO, Louisiana State Univ - Baton Rouge — In loop quantum cosmology the big bang singularity is replaced by a quantum bounce. The evolution of primordial perturbations through such a bounce in a FriedmannLemaîtreRobertsonWalker universe has been studied in great detail. However, it is well known that any tiny anisotropy will grow (up to an upper bound) as the universe contracts and undergoes a bounce. Anisotropies will then decrease and eventually dilute in the expanding branch, but quantum perturbations may retain memory of the anisotropic bounce. In this talk, we present our efforts in understanding the effect of anisotropies (of Bianchi-I type) on the evolution of primordial perturbations in loop quantum cosmology, and in exploring its phenomenological implications.

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