

Abstract Submitted
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Primordial power spectrum from the dressed metric approach in loop cosmologies¹ BAO-FEI LI, Baylor University, Waco, Texas, USA, PARAMPREET SINGH, Louisiana State University, Baton Rouge, LA 70803, USA, ANZHONG WANG, Baylor University, Waco, Texas, USA — We investigate different regularizations and ambiguities in loop cosmological models on the predictions in the scalar and tensor primordial spectra of the CMB using the dressed metric approach (DMA). Three models, standard loop quantum cosmology (LQC), and two modified LQCs (mLQC-I and mLQC-II) arising from different regularizations of the Lorentzian term in the classical Hamiltonian constraint are explored in spatially flat FLRW universe. In each model, two different treatments of the conjugate momentum of the scale factor are considered. The first one corresponds to the conventional treatment in DMA, and the second one is inspired from the hybrid approach. For these two choices, we find the power spectrum to be scale-invariant in the UV regime for all three models, but there is at least a 10

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