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Boundedness of curvature invariants and lack of strong singularities in loop quantization of Kantowski-Sachs spacetime SAHIL SAINI, PARAMPREET SINGH, Louisiana State University — The Kantowski-Sachs spacetime is singular in classical General Relativity. Assuming the validity of effective Hamiltonian approach, we examine the behavior of the curvature invariants in loop quantum cosmology. Our results show that classical divergences in curvature invariants are resolved in the sense that they are found to be finite for any finite proper time, given that the pressure is finite. Analysis of the strength of singularities indicates that strong singularities are resolved but weak singularities can occur. These results are in tune with similar resolution of physical singularities in results obtained earlier for loop quantization of isotropic and Bianchi-I spacetimes.

SAHIL SAINI
Louisiana State University

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