

Abstract Submitted
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Quantum Evolution of Scalar Fields in Spherically Symmetric Gravity BRAJESH GUPT, JORGE PULLIN, Louisiana State University, Baton Rouge, LA 70803 — We present progress of our first step towards theoretical and numerical study of the quantum evolution of mass(less) scalar field in gravity. We utilise the framework of loop quantum gravity and calculate the Classical Hamilton's equation of motion for scalar field ϕ and gravitational variables (connection variable K_φ and triads E^φ), equations are then quantised through LQG approach. The scalar field evolves as a spherical wave when weakly coupled to flat space time. Numerical results are presented and its importance in study of quantum collapse is discussed.

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