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3d Quantum Gravity and Quantum Groups

lundi 16 janvier 2023 11:40 (50 minutes)

I will give a quick overview of the q-deformed Loop Quantum Gravity (LQG) model which describes 3-dimensional quantum gravity with a cosmological constant. The model is characterized in terms of quantum group structures and the quantum Hamiltonian constraints define the Wheeler-DeWitt equations in this framework and generate the Turaev-Viro model (with real q, q being the deformation parameter). I will show, using the spinorial approach, how to construct a complete set of observables and how the notion of parallel transport can be encoded in terms of a quantum R-matrix.

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