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Precanonical quantization of Teleparallel Equivalent of General Relativity

Friday, 9 July 2021 09:10 (20 minutes)

We present the precanonical Hamiltonian analysis and quantization of the Palatini formulation of the teleparallel equivalent of General Relativity in vielbein variables. It leads to more sophisticated fundamental Dirac brackets than in the case of vielbein General Relativity and it naturally leads to a covariant precanonical Schroedinger equation of quantum graviity for a Clifford-algebra-valued wave function of the total space of a frame bundle over space-time. We briefly discuss the classical limit of quantum TPEGR and its similarities with, and differences from the precanonical quantum GR derived in our earlier work. We also discuss a quantum configuration related to the FRWL metric and compare it with an earlier result for quantum GR.

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