Unruh effect on quantum teleportation

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Dynamical aspects of quantum entanglement and teleportation in accelerated systems are studied. Full time evolution of the quantum entanglement and teleportation fidelity involving accelerated observers including non-perturbative effects beyond the Born approximation was analyzed. We show that the modification of the Minkowski vacuum due to the Unruh effect overall increases the decoherence and disentanglement rate thus lowers the fidelity of teleportation.