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Quasiparton and quasifragmentation functions in the massive Schwinger model (25+5)

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We analyze the quasiparton distributions of the lightest meson in massive QED2. For increasing rapidity, we compute the spatial quasiparton distribution functions and amplitude for the lowest excited state numerically both at strong and weak coupling and compare them to light front results in the lowest Fock space approximation. Moreover, we introduce the concept of the quark quasifragmentation function (qFF) using an equal-time and spatially boosted form of the Collins-Soper fragmentation function where the out-meson fragment is replaced by the current asymptotic condition. In the massive Schwinger model, we compute the qFF by exact diagonalization of the spin Hamiltonian. Finally, we compare the results to the qFF following from the Drell-Levy-Yan result for QED2 and to QCD2 in the lowest Fock approximation.

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