toward the α axis, as is observed. The smaller value of β at the continuous transition (approximately 0.714(1) for $L = 500$), compared to that of α (about 0.905(2) for $L = 500$) may also be attributed to repulsion between neighboring particles.

B.   Current: comparison with mean-field theory

The absence of particle-hole symmetry is again evident in a plot of the current as a function of density. In the lattice model, mean field theory gives $J = \rho(1 - \rho)$ [26, 27] which is in fact an exact expression. Fig. 10 compares the current on lattice with our results for continuous space. (Note that the latter exhibit virtually no finite-size effects on the scale of the figure.) Unlike in the lattice TASEP, here the current is not symmetric about $\rho = 1/2$; it takes its maximum value at a density of about 0.57. The fact that the maximum current occurs at a higher density than on the lattice may again be attributed to interparticle repulsion.
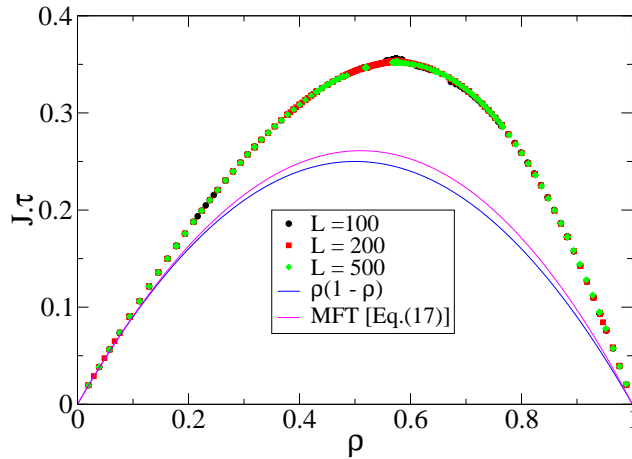

FIG. 10: Current *versus* density in the lattice model (exact) and the continuous-space model.

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