Hinsch, Reese, and Frey Reply: We have carefully reviewed our simulation algorithm and found that the original implementation featured a bias on the passive part that favored moves to the right by a small fraction of order $N^{-1}$. Repeating the simulations with the corrected algorithm, we have now obtained density profiles in good agreement with the simulations by Jiang et al. [1]. In particular, our revised simulations also indicate that the mean field phase diagram, calculated by our analytical approach [2], seems to be exact.

Neither our corrected algorithm nor the simulations of Jiang et al. [1] were designed to simulate the actual dynamics of the system, but are sequential updating algorithms. Therefore, we decided to scrutinize these results upon comparing them with simulations based on the Gillespie algorithm, which gives an exact solution for the stochastic dynamics; see, e.g., Ref. [3]. As shown in Fig. 1(a), the obtained density profiles are in good qualitative agreement, but show slight quantitative deviations.

We have conducted simulations with different established random number generators and have not found any dependence of our results on the used sequence of random numbers. We would like to point out, however, that deviations between the results obtained from a Gillespie and an updating algorithm for large systems are most likely due to insufficient sampling in the updating algorithms. In order to obtain valid averages, the time window for sampling configurations has to be much larger than the typical correlation time $T$. The latter is estimated as the mean passage time of a particle through the active part, $T = C_2 N$. As is well known, the expected error in the simulations should then scale with the inverse square root of the number of statistically independent configurations. In an updating algorithm this implies that the number of moves required for sampling should scale as $N^3$ [see Fig. 1(b)]. This scaling is a peculiarity of the considered lattice gas, as the diffusion rate scales with system size by construction. This leads to the supplemental power of $N$ in addition to the usual $N^2$ scaling for a diffusion process. We think that in update algorithms this large number of relaxation steps is important to note in the particular case of large system sizes.

In conclusion, we attribute the deviation from mean field theory claimed in the original Letter [2] to a faulty simulation algorithm.

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