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Free boundaries and confinement in driven diffusive systems PAK-WING FOK, Caltech, SARAH NOWAK, TOM CHOU, UCLA — We study the dynamics of a load wall confining an asymmetric exclusion process with Langmuir kinetics. Results from Monte Carlo simulations and mean field approximations are compared. We find that the mean position of the wall depends not only on the load on the wall and the injection, adsorption, and desorption rates, but also on the intrinsic fluctuations of the wall. Our results are discussed in the context of nonequilirium phases of the system, fluctuating boundary layers, and particle densities in the lab frame versus the frame of the fluctuating wall.

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