

# Free boundary problem for a non-ergodic facilitated exclusion process

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The Entropy Method introduced by Guo, Papanicolaou and Varadhan (1988) has been used with great success to derive the scaling hydrodynamic behavior of wide ranges of conserved lattice gases (CLG). It requires to estimate the entropy of the measure of the studied process w.r.t. some good, usually product measure. In this talk, I will present a 1-D lattice exclusion model with a dynamical constraint, where a particle at site  $x$  can only jump to  $x + \delta$  iff site  $x - \delta$  is occupied as well. I will give some insight on the different microscopic and macroscopic situations that can occur for this model, and briefly describe how this model requires other tools than the Entropy Method due to its two (diffusive and frozen) phases. I will also expand on the challenges and question raised by this model and on some of its nice mapping features.

## References

- [1] O. BLONDEL, C. ERIGNOUX, M. SASADA AND M.SIMON , *Hydrodynamic limit for a facilitated exclusion process*, Accepted for publication at Annales de l'IHP, Feb. 2018
- [2] O. BLONDEL, C. ERIGNOUX, M.SIMON , *Free boundary problem for a facilitated exclusion process*, in preparation.