

# Coarsening dynamics of a granular lattice gas

E. Opsomer<sup>1,2</sup>, M. Noirhomme<sup>1</sup>, F. Ludewig<sup>1</sup> & N. Vandewalle<sup>1</sup>

<sup>1</sup> Université de Liège, GRASP, Unité de Recherche CESAM, B-4000 Liège, Belgium

<sup>2</sup> Université Paris Diderot, Sorbonne Paris Cité, MSC, F-75013 Paris, France

`eric.opsomer@ulg.ac.be`

We studied experimentally and theoretically a granular gas on a square lattice. This particular geometry allows the clustering of particles on selected sites and modifies the usual gaseous behavior that characterizes driven granular materials. While most studies only focus on the stationary regime (obtained after a long period of shaking), we investigated the evolution of the system beginning with particular initial positions. We observed that our system transits from a fast regime characterized by frequent particles exchanges to a slow regime where its dynamics are dictated by the formation and the stability of the trapping sites. Our work addresses fundamental questions concerning dynamical regimes encountered in a dilute dissipative system.

## Références

1. E. Opsomer, M. Noirhomme, F. Ludewig, and N. Vandewalle, *Eur. Phys. J. E* **39**, 62 (2016)