Hydrodynamic Limit of Granular Gases toward Pressureless Euler in Dimension 1 (and Beyond?)

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Abstract

In this talk, I will present a joint work with P.-E. Jabin where we investigate the behavior of granular gases in the limit of small Knudsen number, that is very frequent collisions. We deal with the strongly inelastic case, in one dimension of space and velocity. We are able to prove the convergence toward the pressureless Euler system. The proof relies on dispersive relations at the kinetic level, which leads to the so-called Oleinik property at the limit. I will also try to convince you that our technique, although one dimensional, might be extended to the multi-d case.

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