

A hard rod system with non homogeneous sizes

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A rod (q, v, d) represents a segment $(q, q+d)$ travelling at speed v , in absence of other rods. The hard rod condition means that rods cannot intersect. When two rods collide, they immediately swap positions so that the slower rod stays to the left. This model, introduced by Boldrighini, Dobrushin and Sukhov in 1982, has infinitely many conservation laws, a feature shared by the Generalized Gibbs Ensemble. I will present a work in progress for the case of variable d , including a generalized hydrodynamic limit. Work in collaboration with Pablo A. Ferrari