

Probability measures on the path space and the sticky particle system

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Abstract. We study collections of point masses which move freely along the real line and stick together when they collide via perfectly inelastic collisions. We quantify the way particles stick together and explain how to associate a probability measure on the space of continuous paths to such a collection of evolving point masses. These observations lead to a new method of designing solutions to the sticky particle system in one spatial dimension which have nonincreasing kinetic energy and satisfy an entropy inequality.

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