

## **Random multiple-fragmentation and flow of particles on a surface**

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We investigate a stochastic fragmentation processes for particles with spatial position. The mathematical problem models the time evolution of a system of particles which move on an Euclidean surface driven by a given force and split in fragments with smaller masses and velocities. We establish a multiple-fragmentation process and we solve the corresponding stochastic integro-differential equation. Finally, we present several numerical simulations of such processes. The talk is based on a joint work with Ioan R. Ionescu (Paris) and Oana Lupaşcu-Stamate (Bucharest).