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Jamming in Hopper Flows: Analysis of Survival Times[1] MICHAL DICHTER, Brandeis University, SHUBHA TEWARI, Western New England University, BULBUL CHAKRABORTY, Brandeis University — Many granular systems experience a transition from a fluid-like state to a solid-like state characterized by a sudden arrest in dynamics, or "jamming." Recent experiments by the Behringer Group at Duke University suggest a probabilistic model of jamming in hopper flows. We will show the results of numerical simulations of dense, gravity-driven, granular flows in a two-dimensional hopper with a tapered outlet [*PRE* **79**, 011303 (2009)]. We will present results for the statistics of mass flow at the outlet, and the probability of survival without a jam. We will correlate the survival times with velocity and density distributions near the hopper opening.

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