

Abstract Submitted
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The Role of Anisotropy in Hopper Flows AUDREY MELVILLE,
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Duke University — In this work, we examine granular flows in a quasi-two-
dimensional hopper. We use two high-speed cameras to record granular flows com-
posed of photoelastic disks. Our dual camera approach provides synchronized par-
ticle tracking data and the force response of each particle. The photoelastic mea-
surements allow us to extract a measure for the local anisotropy of the stress field.
Using this data, we probe the relationship between the local flow dynamics with
local measurements of the stress anisotropy, particle density, and pressure in the
system. Current work includes correlating these quantities in the context of a shear
jamming picture.

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