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Dynamics of fire ant aggregations MICHAEL TENNENBAUM, DAVID HU, ALBERTO FERNANDEZ-NIEVES, Georgia Inst of Tech — Fire ant aggregations are an inherently active system. Each ant harvests its own energy and can convert it into motion. The motion of individual ants contributes non-trivially to the bulk material properties of the aggregation. We have measured some of these properties using plate-plate rheology, where the response to an applied external force or deformation is measured. In this talk, we will present data pertaining to the aggregation behavior in the absence of any external force. We quantify the aggregation dynamics by monitoring the rotation of the top plate and by measuring the normal force. We then compare the results with visualizations of 2D aggregations.

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