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**Development of buoyant currents in yield stress fluids** P. ROSSI, I. KARIMFAZLI, Concordia University — Infinitesimal perturbations are known to decay in a motionless yield stress fluid. We present experimental evidence to reveal other mechanisms promoting free advection from a motionless background state. Development of natural convection in a cavity with differentially heated sidewalls is investigated as a benchmark. Velocity and temperature fields are measured using particle image velocimetry/thermometry. We examine time evolution of the flow, compare experimental findings with theoretical predictions and comment on the striking features brought about by the yield stress.

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