

Abstract Submitted
for the DFD06 Meeting of
The American Physical Society

Modelling persistent holes in complex fluids ROBERT D. DEEGAN, RICHARD R. KERSEWELL, University of Bristol — Mkr *et al* (PRL 184501 **98**, (2004)) discovered that vertically vibrated shear thickening fluids can support stable vertical interfaces. These stable structures take the form of holes, voids that span the fluid layer which can last indefinitely, or of fingers, columnar-type protrusions which persist for thousands of cycles. We show that the stability of the holes can be understood in terms of a hysteretic rheology model, and confirm the existence of this hysteresis in rheological measurements of a mixture of cornstarch and water.

Robert Deegan
University of Bristol

Date submitted: 05 Aug 2006

Electronic form version 1.4