

Euromech Colloquium 492

Shear banding in entangled systems

UCL, September 3–5 2007

Provisional Programme

The main content of the meeting runs from lunch on Monday to lunch on Wednesday. A provisional ordering of talks is given below.

Monday 3 September

Registration and lunch

13:45–13:50 Welcome and introduction

13:50–14:20 Modeling the inhomogeneous response in steady and transient flows of wormlike micellar solutions
Pam Cook (with Lin Zhou, Paula Vasquez & Gareth McKinley)

14:30–14:50 Flow of entangled wormlike micellar fluids: mesoscopic simulations, rheology and μ -PIV experiments
E.S. Boek, J.T. Padding, V.J. Anderson, W.J. Briels & J.P. Crawshaw

14:50–15:20 Flow of worm like micelles in an expansion-contraction geometry
M.R. Stukan, E.S. Boek, J.T. Padding, W.J. Briels & J.P. Crawshaw

Tea break

Session: Boundary conditions and slip

16:00–16:20 The effects of different viscoelastic stress boundary conditions on shear banding flows
James M. Adams, Peter D. Olmsted & Suzanne M. Fielding

16:30–16:50 Wall effects and apparent slip flow in polymeric liquids and liquid crystals
S. Hess, S. Heidenreich & P. Ilg

17:00–17:20 The effect of slip on shear banding of CPyCl/NaSal wormlike micelles
M. Pavlik Lettinga

17:30–17:50 Wall-effects on the flow of nematic liquid crystals and liquid crystal polymers
Sebastian Heidenreich, Siegfried Hess & Patrick Ilg

Discussion

Tuesday 4 September

Session: Instabilities

09:30–09:50 Nonlinear stability of granular shear flow: Landau equation and shearbanding
Priyanka Shukla & Meheboob Alam

10:00–10:20 Microfluidic characterization of shear-banding in wormlike micelles flows: basic and unstable regimes.
Philippe Nghe, Guillaume Degré, Patrick Tabeling & Armand Ajdari

10:30–10:50 Transient evolution of shear-banding wormlike micelle solutions
Erik Miller & Jonathan P. Rothstein

Coffee break

11:20–11:40 Two-dimensional perturbations in a scalar model for shear-banding
Johan L.A. Dubbeldam & Peter D. Olmsted

11:50–12:10 Wormlike micelles solution in a planar Poiseuille flow
C. Masselon, J. B. Salmon & A. Colin

12:20–12:40 Interfaces and shear banding
Ovidiu Radulescu

Discussion; then lunch

Session: Vorticity banding and 3D effects

14:00–14:20 Structure and rheology of a shear-thickening wormlike micellar system
V. Herle, J. Kohlbrecher, S. Manneville, O. Cesare & P. Fischer

14:30–14:50 Shear thickening wormlike micellar solution — Simultaneous formation of vorticity and velocity bands studied by birefringence measurement
P. Fischer, V. Herle, C. Baravian & F. Caton

15:00–15:20 Interface dynamics in shear-banding flow of giant micelles
Sandra Lerouge

Tea break

16:00–16:20 Complex dynamics of shear banded flows
Suzanne Fielding & Peter Olmsted

16:30–16:50 Multiple shear-banding transitions in solutions of a supramolecular polymer
J. van der Gucht, W. Knoben, M. Lemmers, M.P. Lettinga, N.A.M. Besseling

17:00–17:20 Is vorticity banding due to an elastic instability?
Kyongok Kang, M.P. Lettinga, Jan K.G.Dhont

Discussion

19:00 for 19:30 Conference dinner, Wilkins Terrace Restaurant

Wednesday 5 September

09:20–09:40 Elastic turbulence in a nonlinear Maxwell-model fluid
Chris Goddard, Ortwin Hess, Siegfried Hess

09:45–10:05 Modelling shear banding in large-amplitude oscillatory shear of polymer solutions
James M. Adams & Peter D. Olmsted

10:10–10:30 Shear banding in carbon nanotube networks
Erik Hobbie

Coffee break

11:00–11:20 Shear banding in lamellar di-block co-polymers
Wim J. Briels

11:30–11:50 Shear banding in entangled polymer solutions?
Y. Thomas Hu & Alex Lips

Discussions and review

12:30–12:50 Summary and overview of progress and plans
Mike Cates

12:50–13:00 Closing remarks

Lunch and close

This is a provisional programme and things are likely to change; in particular, because there are no parallel sessions, discussion sessions may be extended and talks changed around to suit the progress of the meeting.