

# Thin layer flows

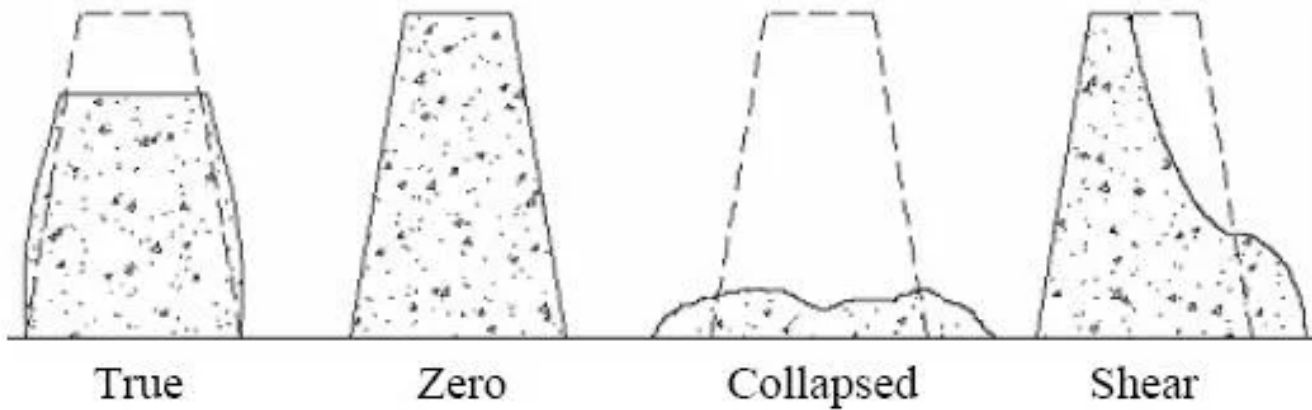
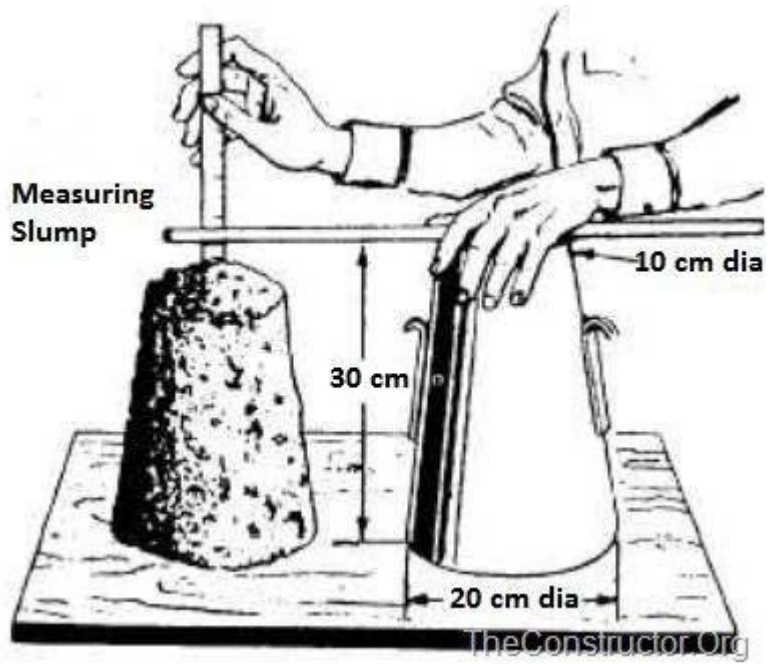
4 papers:

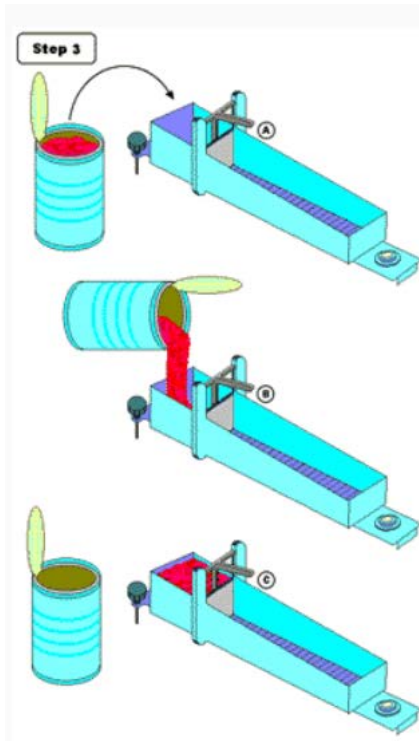
[Balmforth & Craster, JNNFM **84** (1999) – resolution of lubrication paradox]

Balmforth et al. JNNFM **142** (2007)

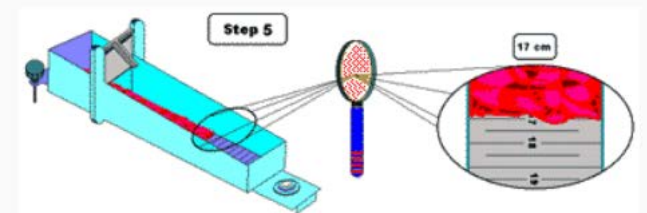
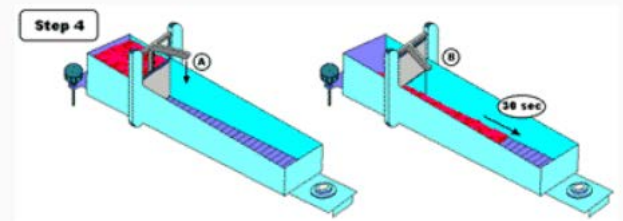
Dubash et al., JNNFM **158** (2009)

Liu et al, JNNFM **258** (2018)





Step 3- Pour the desired sample into the sample reservoir as shown in A and B. Fill the reservoir up to the top of the product gate (C).



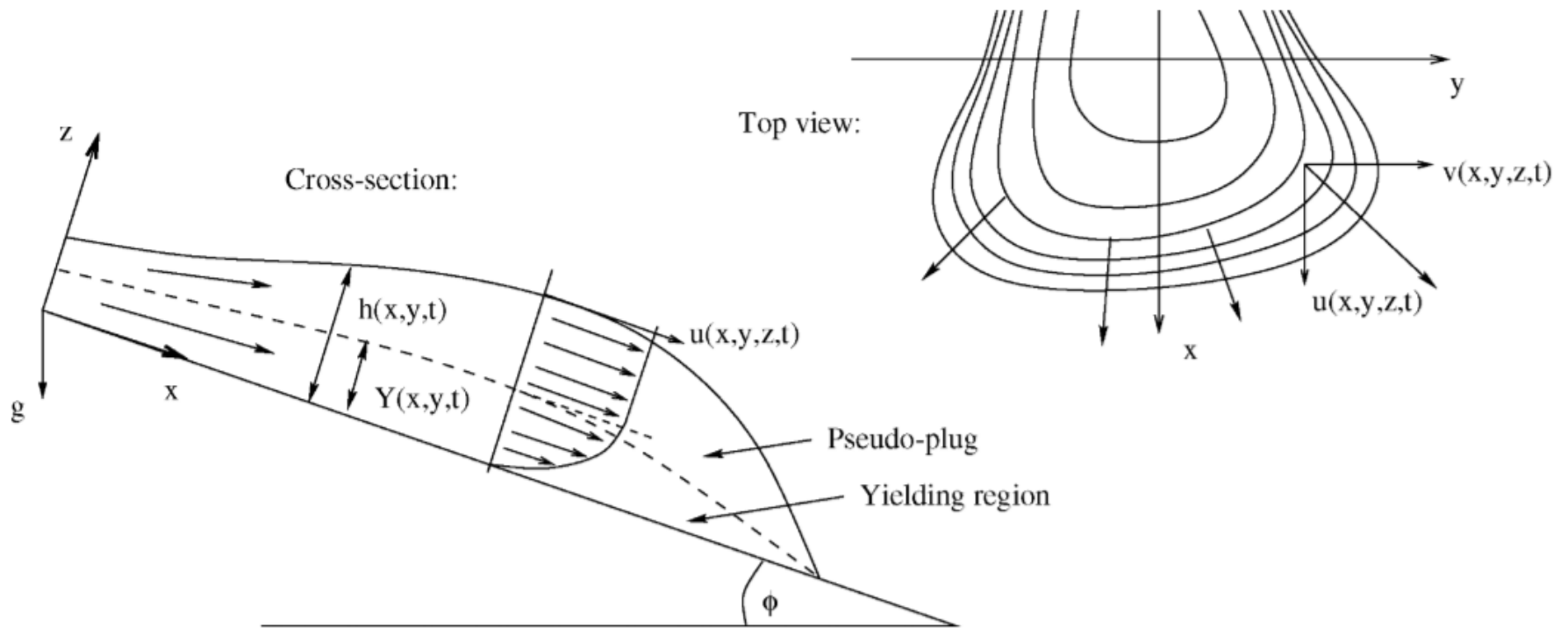


Fig. 1. Sketch of a flow on an inclined plane.  $\phi$  is the angle of inclination to the horizontal.

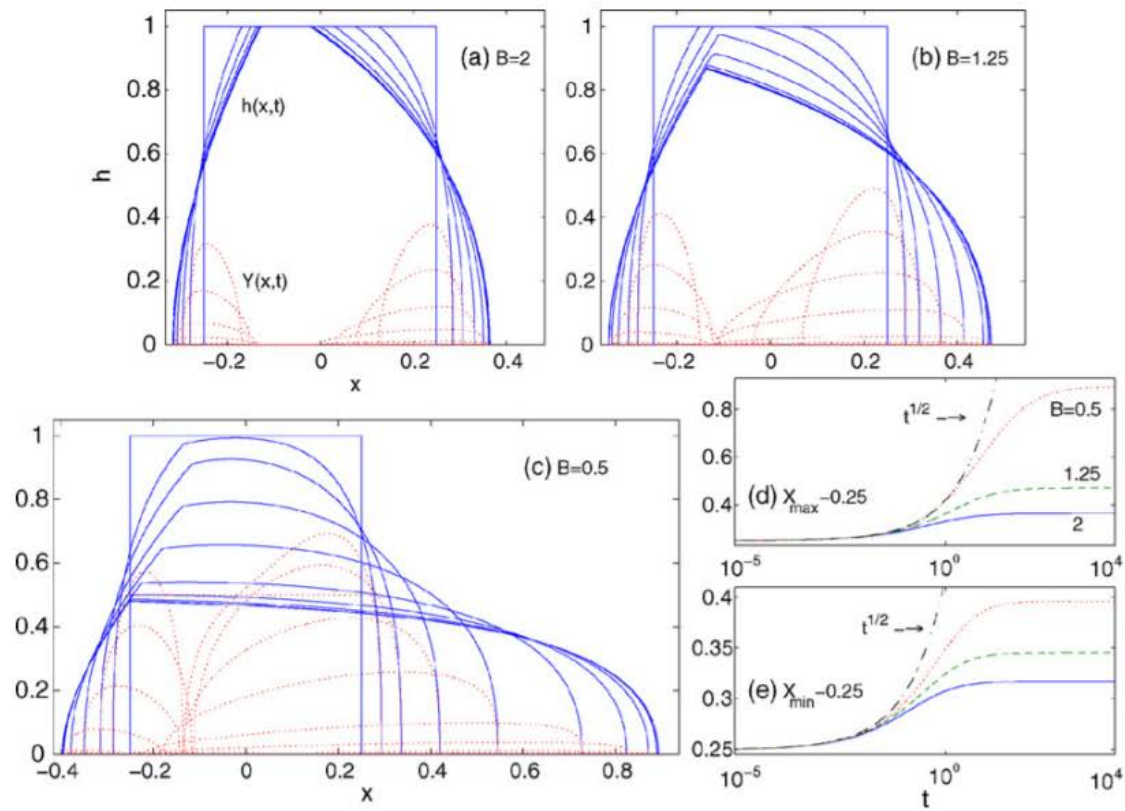


Fig. 2. Numerical solutions showing the slump of a two-dimensional block of fluid on an incline. Snapshots of  $h$  (solid lines) and  $Y$  (dotted lines) are shown for (a)  $B=2$ , (b)  $B=1.25$  and (c)  $B=0.5$  (the snapshots are at  $t=0, 0.0625, 0.25, 1, 4, 100, 400, 2500, 10^4$ ). In panels (d) and (e), we show time series of the downstream and upstream fluid edges,  $X_{\max}$  and  $X_{\min}$ , respectively. Also indicated is a  $\sqrt{t}$  dependence that fits the early part of the data.