Video Caption for JFM

Movie 1 – Earlier VideoS01

A typical case of bursting bubble in a Newtonian liquid medium: $\mathcal{J} = 0.0$ and $\mathcal{O}h = 10^{-2}$. The left part shows the magnitude of the velocity field, and the right part shows the magnitude of the Deformation tensor on a $\log_{10}$ scale. This video is associated with Figure 2 of the manuscript.

Movie 2 – Earlier VideoS02

Bursting bubble in a weakly viscoplastic liquid medium in which the process still shows all the major characteristics of the Newtonian liquid: $\mathcal{J} = 0.1$ and $\mathcal{O}h = 10^{-2}$. The left part shows the magnitude of the velocity field, and the right part shows the magnitude of the Deformation tensor on a $\log_{10}$scale. This video is associated with Figures 2 and 11 of the manuscript.

Movie 3 – Earlier VideoS04

Bursting bubble in a highly viscoplastic liquid medium: $\mathcal{J} = 1.0$ and $\mathcal{O}h = 10^{-2}$. The left part shows the magnitude of the velocity field, and the right part shows the magnitude of the Deformation tensor on a $\log_{10}$ scale. This video is associated with Figure 2 of the manuscript.

Movie 4– Earlier VideoS05

Angular trajectory of the travelling capillary wave during bursting bubble in a Newtonian liquid medium: $\mathcal{J} = 0.0$ and $\mathcal{O}h = 10^{-2}$. The grey dotted line denotes the Newtonian limit, $\theta_c - \theta_i \sim -V_\gamma t$ as described by Gordillo & Rodríguez-Rodríguez (2019). The blue dot in the right panel of the video shows the position of the capillary wave. This video is associated with Figure 3 of the manuscript.

Movie 5 – Earlier VideoS06

Angular trajectory of the travelling capillary wave during bursting bubble in a viscoplastic liquid medium: $\mathcal{J} = 0.2$ and $\mathcal{O}h = 10^{-2}$. The blue dot in the right panel of the video shows the position of the capillary wave. This video is associated with Figure 3 of the manuscript.

Movie 6 – Earlier VideoS07

Angular trajectory of the travelling capillary wave during bursting bubble in a viscoplastic liquid medium: $\mathcal{J} = 1.0$ and $\mathcal{O}h = 10^{-2}$. The blue dot in the right panel of the video shows the position of the capillary wave. This video is associated with Figure 3 of the manuscript.

Movie 7 – Earlier VideoS08

Formation of the jet as a result of collapsing cavity in a Newtonian liquid medium: $\mathcal{J} = 0.0$ and $\mathcal{O}h = 10^{-2}$. The blue dot in the right panel of the video shows the centre-line interface location being tracked. This video is associated with Figure 4 of the manuscript.

Movie 8 – Earlier VideoS010

Effects of viscoplasticity on the formation of the jet as a result of collapsing cavity (jetting is suppressed): $\mathcal{J} = 0.3$ and $\mathcal{O}h = 10^{-2}$. The blue dot in the right panel of the video shows the centre-line interface location being tracked. This video is associated with Figure 4 of the manuscript.

Movie 9 – Earlier VideoS011

Bursting bubble in a viscoplastic liquid medium: $\mathcal{J} = 0.1$ and $\mathcal{O}h = 10^{-3}$. The left part shows the magnitude of the velocity field, and the right part shows the magnitude of the Deformation tensor on a $\log_{10}$ scale. This video is associated with Figure 11 of the manuscript.

Movie 10 – Earlier VideoS12

Bursting bubble in a viscoplastic liquid medium: $\mathcal{J} = 0.1$ and $\mathcal{O}h = 10^{-1}$. The left part shows the magnitude of the velocity field, and the right part shows the magnitude of the Deformation tensor on a $\log_{10}$ scale. This video is associated with Figure 11 of the manuscript.