

## Figure Captions of the movie file JFM-20-S-0817.R2

Figure 11 : Time sequence of the axial vorticity ( $\omega_z$ ) at the central surface ( $x = 0.5$ ) with the time interval (period) of 0.875 between figures for  $V_E=2500$ .

Figure 13(c) : Instantaneous structures of vortices and temperature field for  $V_E=3000$  (iso-surface of  $Q=7$ )

Figure 14(a) : Instantaneous 3D vortical structures in the annulus for high values of the electric tension for  $V_E=4000$  ( $Q=20$ )

Figure 14(b) : Instantaneous 3D vortical structures in the annulus for high values of the electric tension for  $V_E=6000$  ( $Q=60$ )

Figure 14(c) : Instantaneous 3D vortical structures in the annulus for high values of the electric tension for  $V_E=8000$  ( $Q=120$ )