Movie Captions

• Movie 1 Xu et al. supplementary movie 1 Movie shows the reversal of the largescale circulation in the 2D circular cell. Temperature field (contour) of the flow at $Ra = 1 times 10^7$, Pr = 4.3, and at $Ra = 3 times 10^7$, Pr = 8 are shown.

• Movie 2 Xu et al. supplementary movie 2 Movie shows the the onset of the LSC in the 2D circular cell with different initial conditions. Temperature field (contour) of the flow at $Ra = 1times10^7$, Pr = 4.3.

• Movie 3 Xu et al. supplementary movie 3 Movie shows the the onset of the LSC in the 2D square cell with different initial conditions. Temperature field (contour) of the flow at $Ra = 1 times 10^7$, Pr = 4.3.