

Movie 2. Numerical simulations showing the time evolution of the vorticity field $\zeta(x, y, t)$ with initial conditions

$$\zeta(\mu, \nu, t_0) = \zeta_0 (\text{Je}_0(\mu) \text{ce}_0(\nu) - \text{Je}_0(\mu_1) \text{ce}_0(0)) , \quad \mu \leq \mu_B(\nu) .$$

The vorticity amplitude is $\zeta_0 = 1$ and the foci $f = 1/\sqrt{2}$. The numerical domain is a square with a side length $L = 160$ discretized in 2048^2 grid points. Time step $\delta_t = 0.01$ and time save $\Delta_t = 10$. The movie comprises only a reduced area of the numerical domain and the time interval $t = [0, 3000]$. Vorticity contour intervals are $\Delta_\zeta = 0.008$ for $\zeta < 0$ (white contour lines), and $\Delta_\zeta = 0.1$ for $\zeta > 0$ (black contour lines). The red thick contour corresponds to $\zeta = 0$.