

AE 625

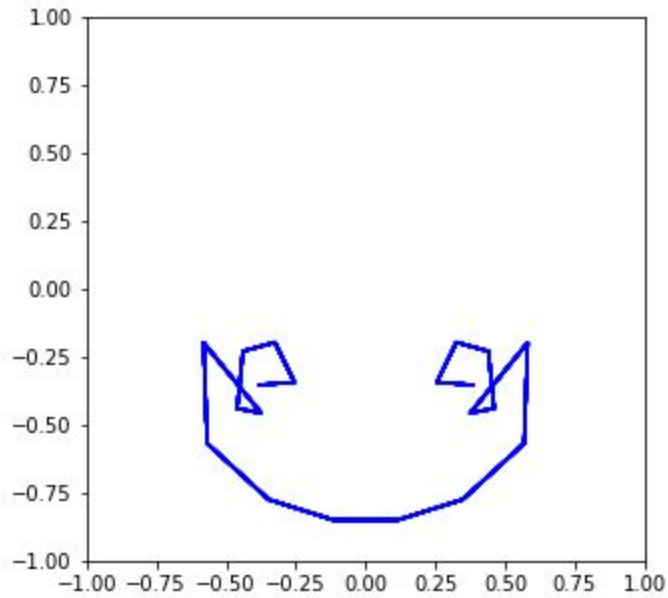
ASSIGNMENT-2

Results:

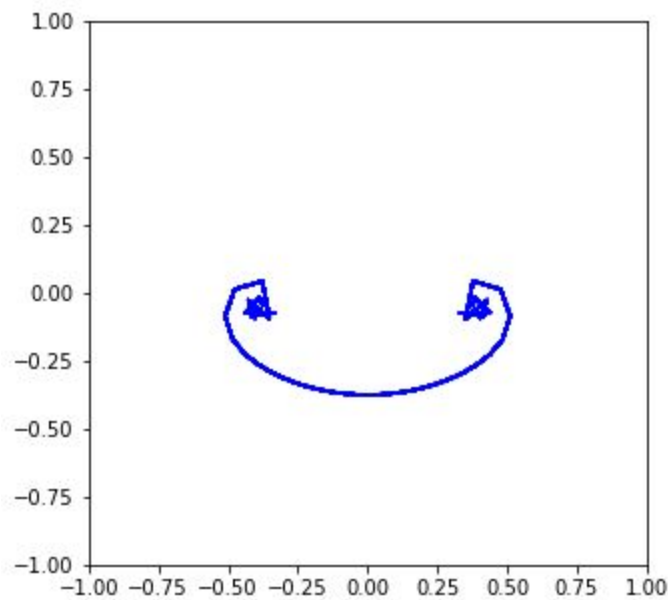
Vortex sheet roll-up Using:

1. Point vortices:

For point vortices = 20

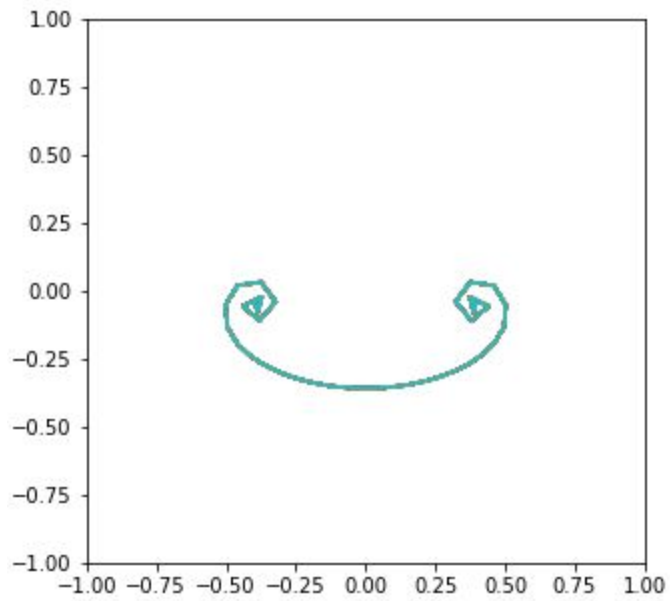


For point vortices = 50

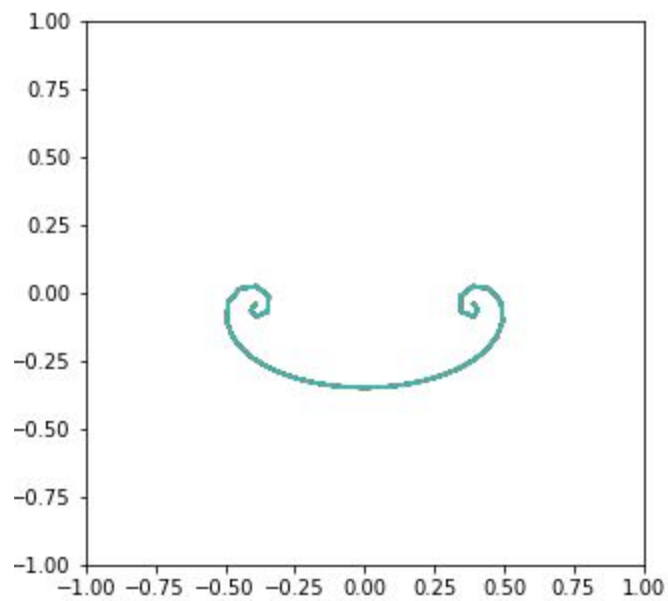


2. Using Krasny Blob:

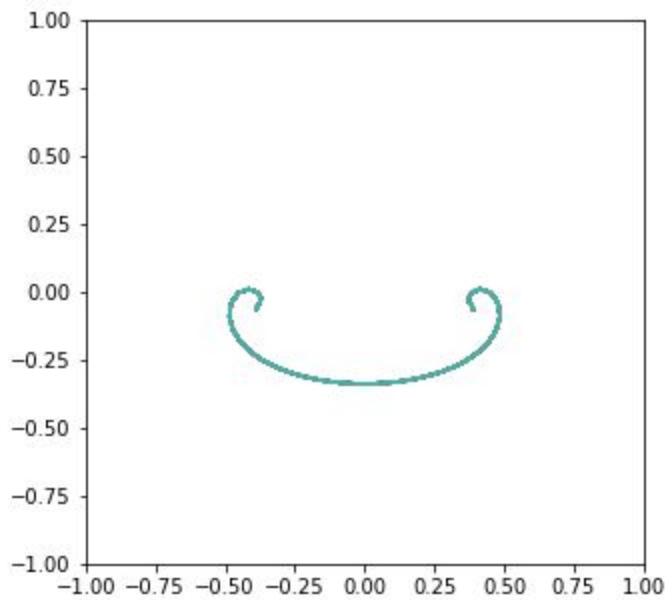
For $\delta = 2 \cdot dx$ and 50 blobs, timestep=0.01, no of steps= 5000



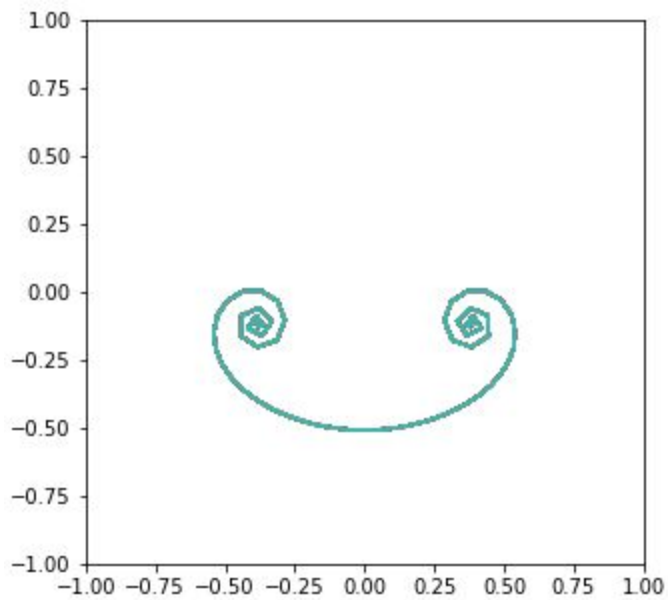
For $\delta = 3 \cdot dx$



For $\Delta t = 4 \cdot \Delta x$, 50 blobs, timestep=0.01, no of steps= 5000



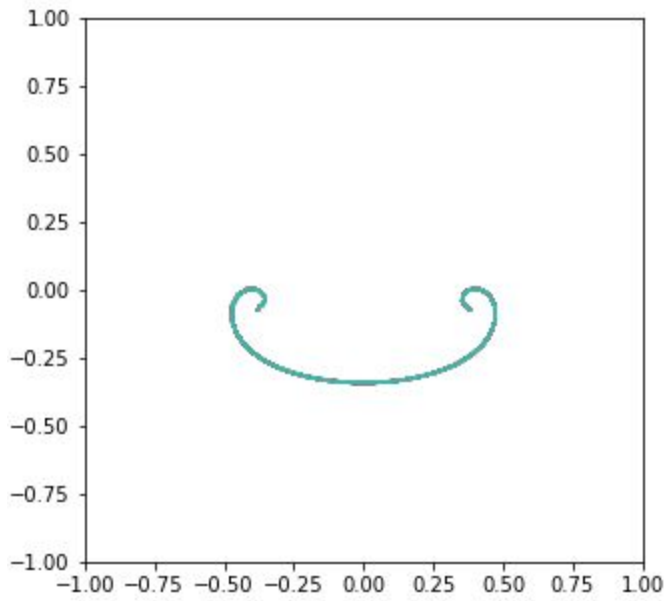
For $\Delta t = 4 \cdot \Delta x$, 80 blobs, timestep=0.01, no of steps= 5000



We can see that if we increase the delta the smoothness increases and better simulation is obtained.

3. Placing blobs at position: $b\sin(\theta)$

Using 50 blobs , $\delta = 4 \cdot dx$, steps=1000, $dt = 0.01$



Using 100 blobs , $\delta = 4 \cdot dx$, steps=1000, $dt = 0.01$

