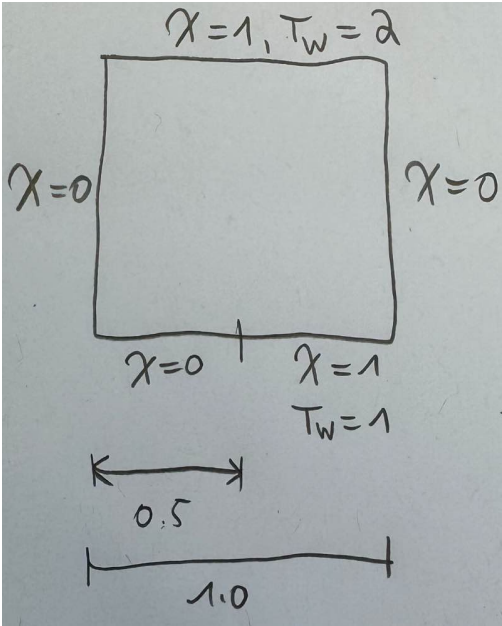


Rotating Flow in Cavity: Rarefaction Effects

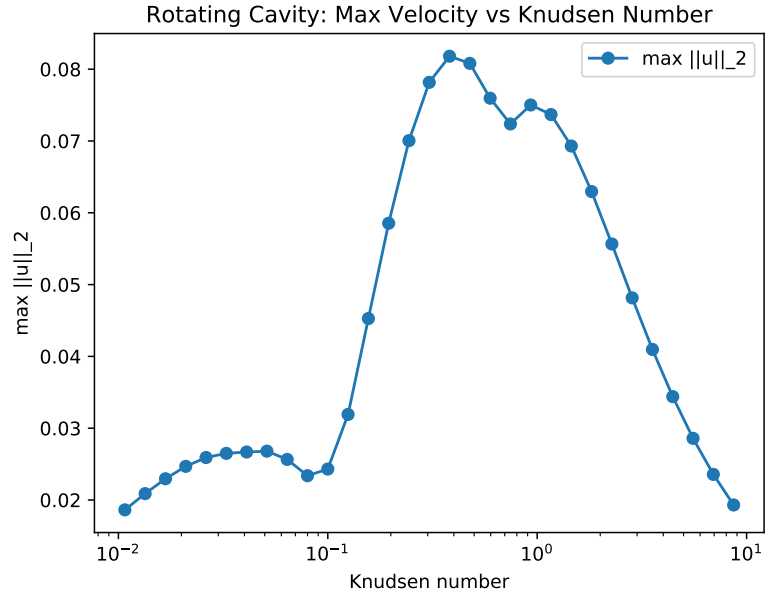
Lambert Theisen

October 27, 2025

- Geometry and BCs from Fig. 1a.
- In Fig. 1b, we observe increasing maximum velocity with increasing Knudsen number, reaching a plateau and then decreasing for higher Knudsen numbers.
- In Fig. 2, we see that the direction of the vortex flips at some point.



(a) Geometry and Boundary Conditions



(b) Maximum velocity max $\|u\|_2$ vs Knudsen number Kn

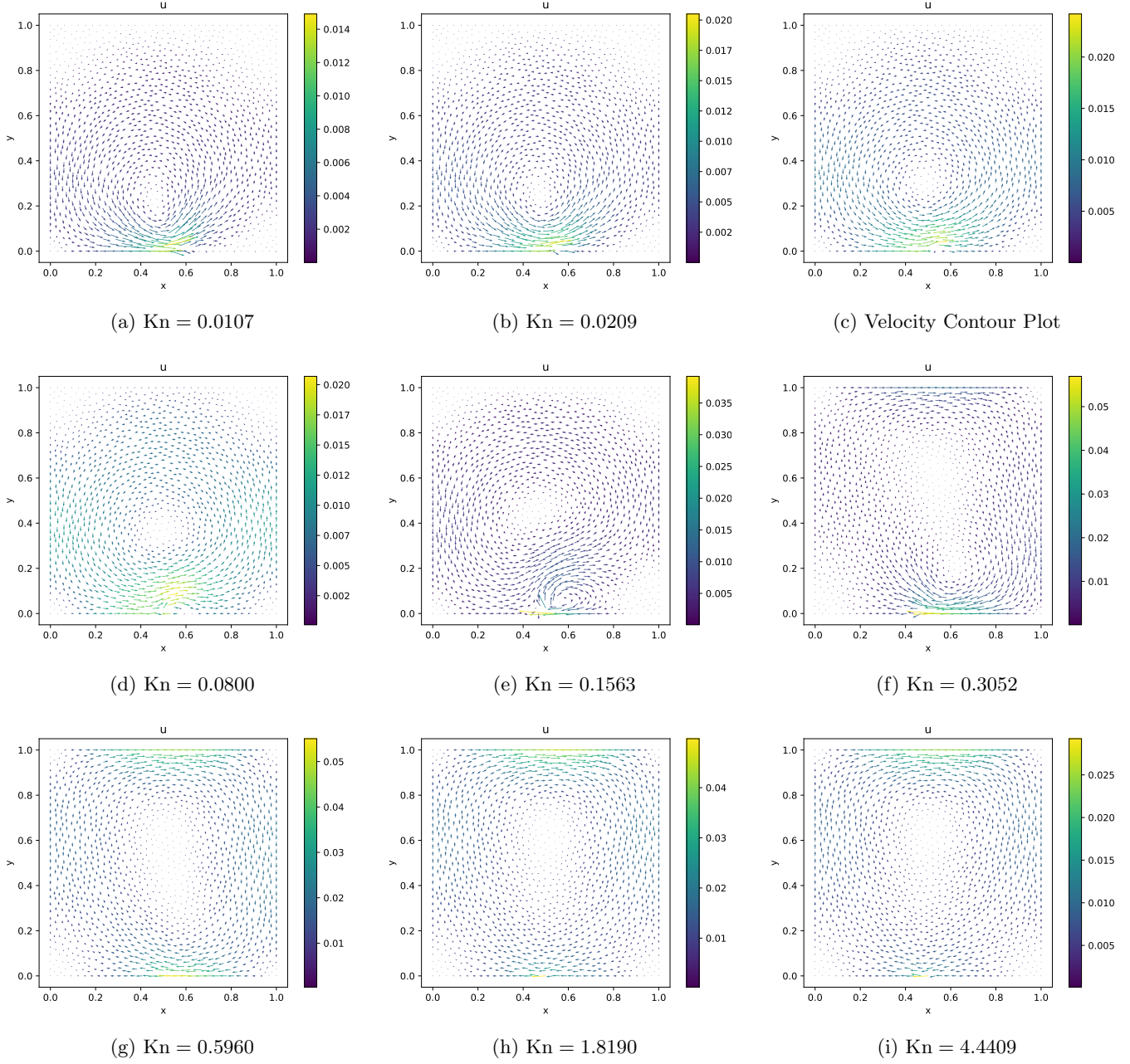


Figure 2: Velocity field