

Vortex formation of spherical self-propelled particles around a circular obstacle

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Movie 1: Particle vortex around the obstacle (VS). ($D_r = 0.001$, $R = 15$ and $\phi = 0.15$).

Movie 2: pSPPs (red) and nSPPs (green) around the obstacle in the VS. ($D_r = 0.001$, $R = 15$ and $\phi = 0.15$).

Movie 3: Particles around the obstacle in the RS. ($D_r = 0.001$, $R = 10$ and $\phi = 0.15$).

Movie 4: Particles around the obstacle in the TS. The movie shows the time period of the reversal of the orbiting direction. ($D_r = 0.001$, $R = 10$ and $\phi = 0.2$).