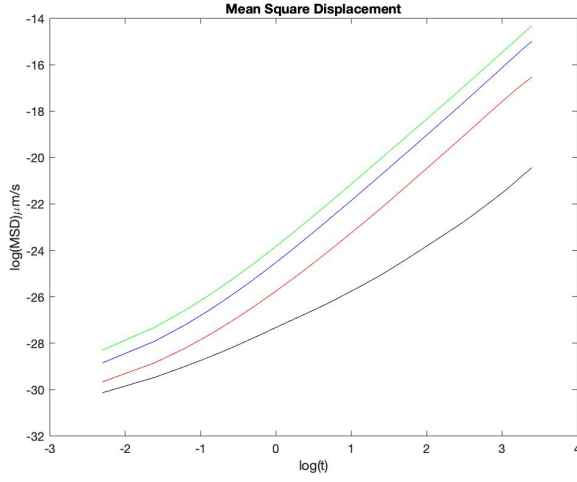# FFR120, Simulation of Complex Systems
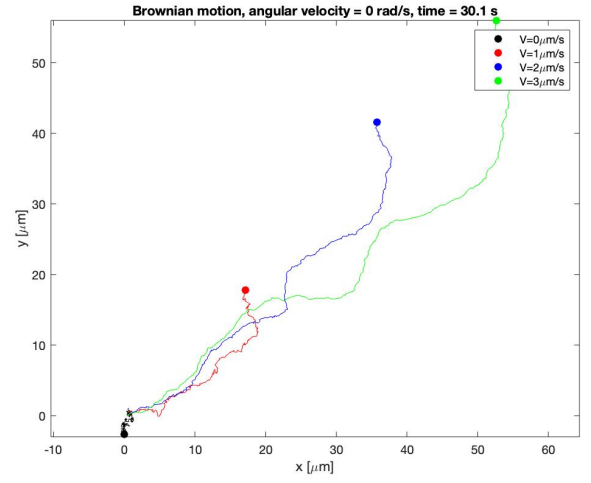# **Homework 3**

November 27, 2019

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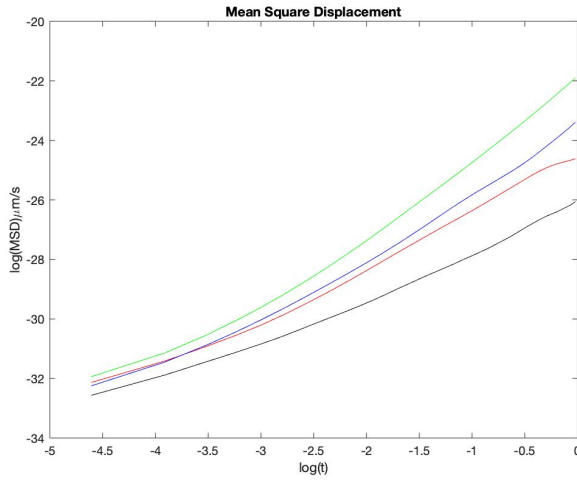
1 Active Brownian motion

(a) Corresponding mean square displacements of the particles with $\tau = 1 \cdot 10^{-1}$ and timesteps set to 300.
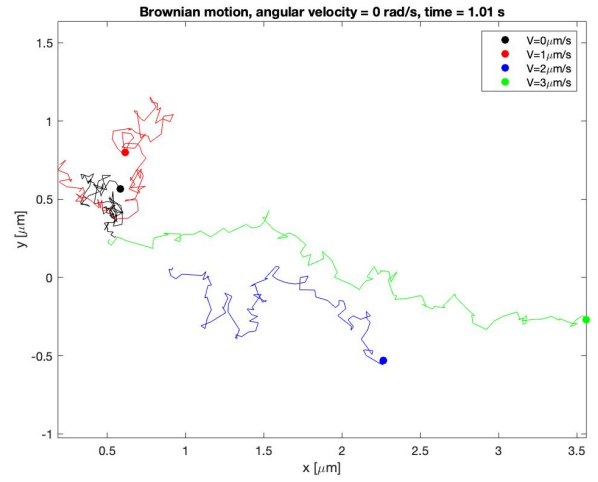
(b) Sample trajectories of active Brownian particles with different swimming velocities.

Figure 1

(a) Corresponding mean square displacements of the particles with $\tau = 1 \cdot 10^{-1}$ and timesteps set to 100.

(b) Sample trajectories of active Brownian particles with different swimming velocities.

Figure 2

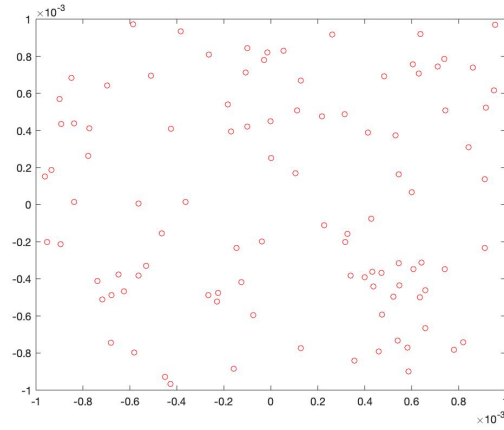# 2   Many body model

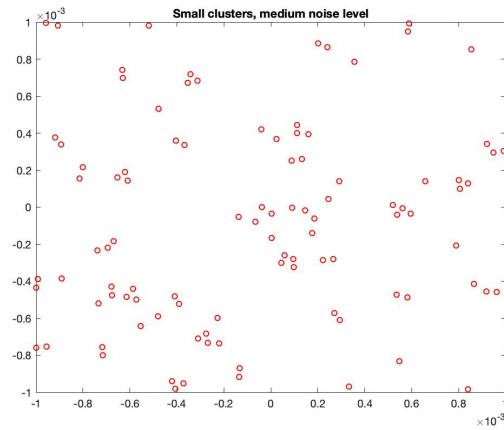Figure 3: High noise level, very low clustering.
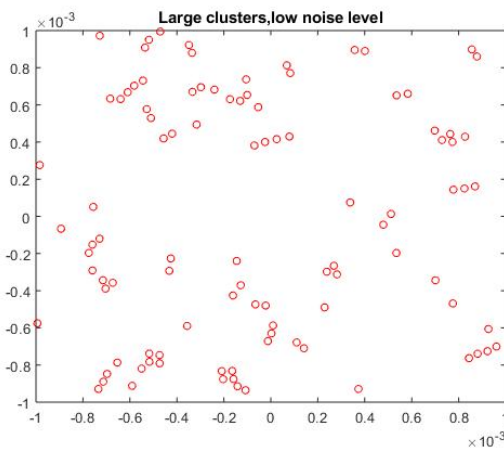

Figure 4: Medium noise level, small clusters.

Figure 5: Low noise level, large clusters.