edX

Problem (5-6)
Problem 5

0.0/2.0 points (graded)
Perform the same simulation presented in the video, using the original code example for interacting Brownian particles introduced in Part 3, but this time change the volume fraction of the particles to vf=0.1.

Calculate and plot the velocity auto-correlation function $\varphi_V(t)$. Which of the following graphs (G21 - G25) is the closest to what you obtained?
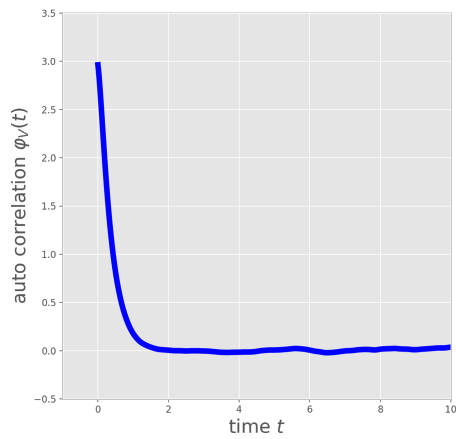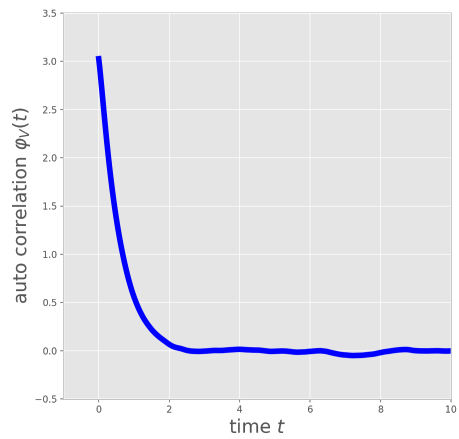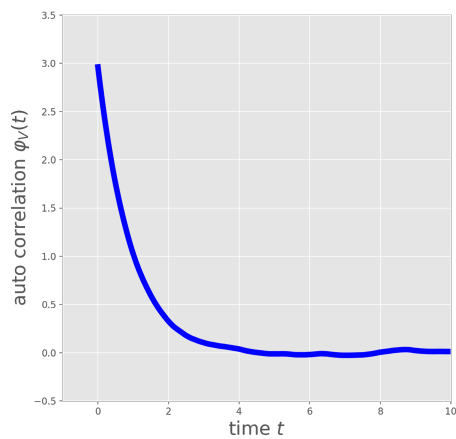
G21
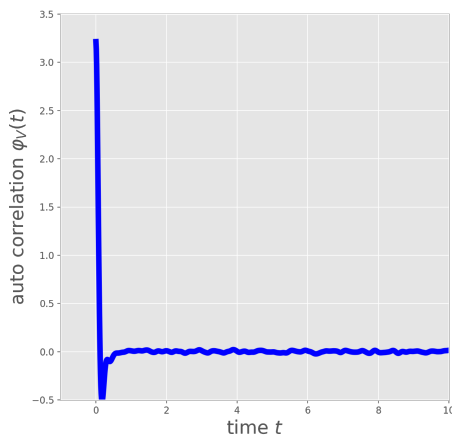
G22
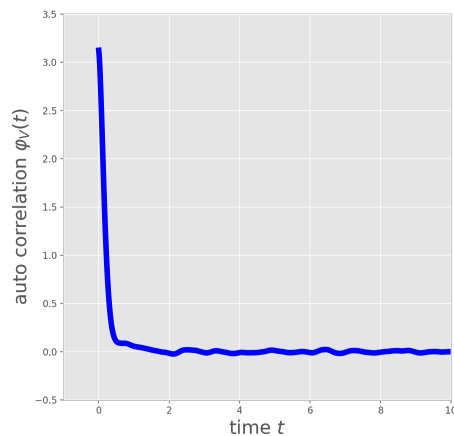
G23

G24

G25

○ G21

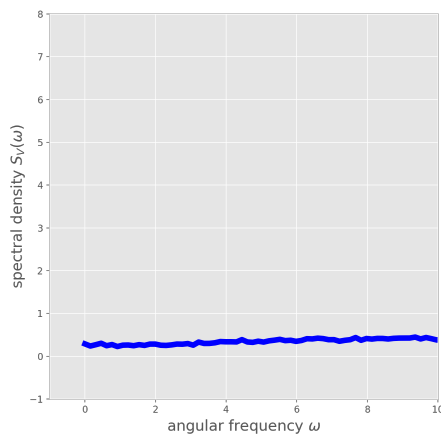○ G22

○ G23

○ G24

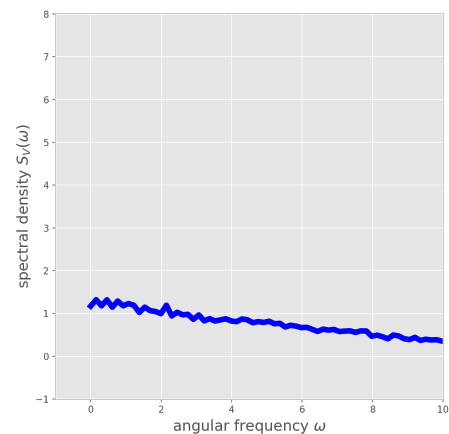○ G25

Submit   You have used 0 of 2 attempts

Problem 6

0.0/1.0 point (graded)

Using the simulation data produced by Problem 5 for interacting Brownian particles at vf=0.1, calculate and plot the power spectrum of the velocity $S_V(t)$. Which of the following graphs (G31 - G35) is the closest to what you obtained?
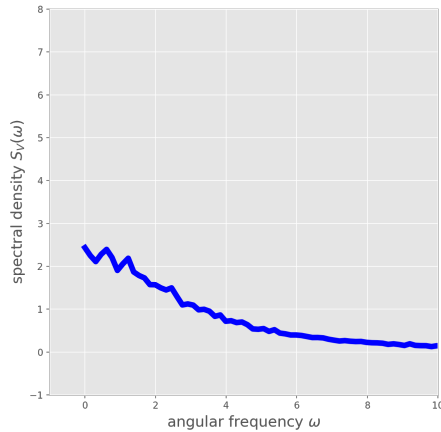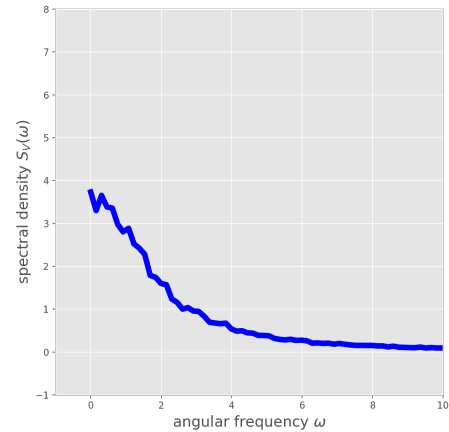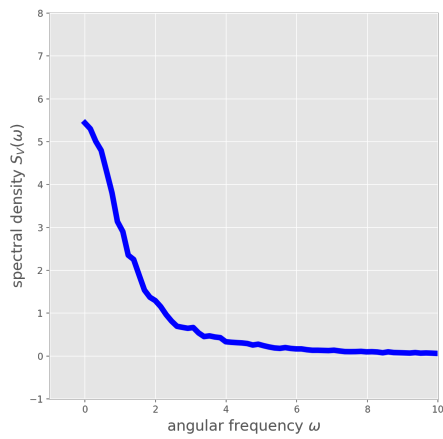
G31

G32

G33

G34

G35

A graph titled with y-axis "spectral density $S_V(\omega)$" ranging from -1 to 8 and x-axis "angular frequency ω" ranging from 0 to 10.

- ○ G31
- ○ G32
- ○ G33
- ○ G34
- ○ G35

Submit　　　You have used 0 of 2 attempts