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Homework 5
Homework 5-1

0.0/4.0 points (graded)

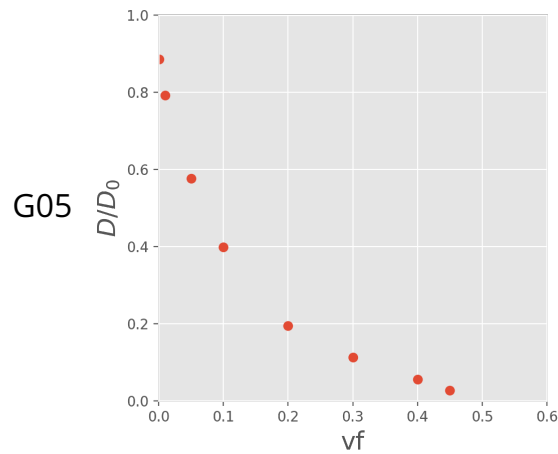Calculate the diffusion constant D as a function of the volume fraction by choosing vf=0.001 (original case), 0.01, 0.05, 0.1, 0.2, 0.3, 0.4, and 0.45. Then plot D/D_0 vs. vf, where $D_0 = k_B T/\zeta$ represents the theoretical value for non-interacting Brownian particles. Which of the following graphs (G01 - G05) is the closest to what you obtained?

G01

G02

G03

G04

G05

- ○ G01

- ○ G02

- ○ G03

- ○ G04

- ○ G05
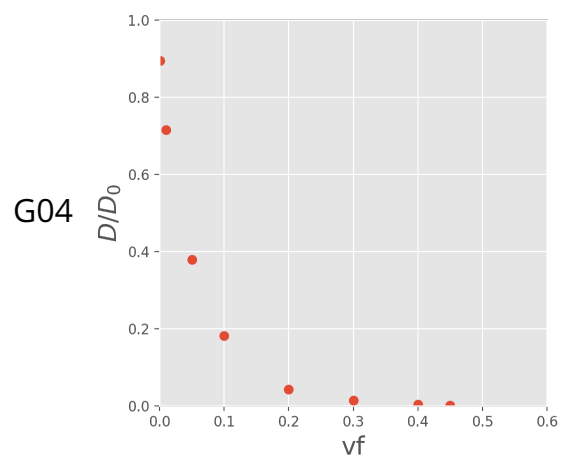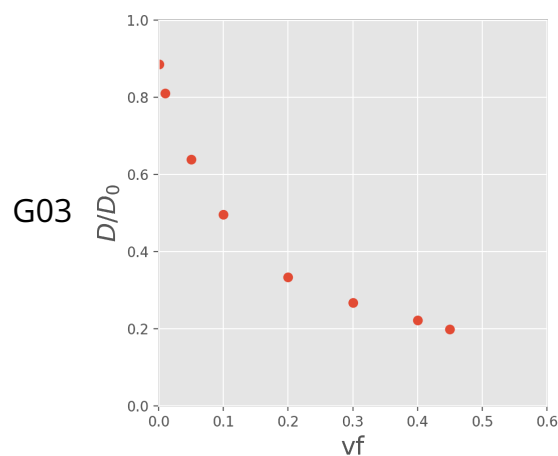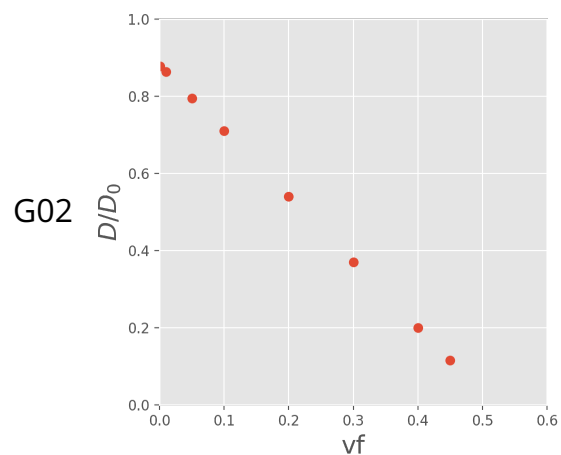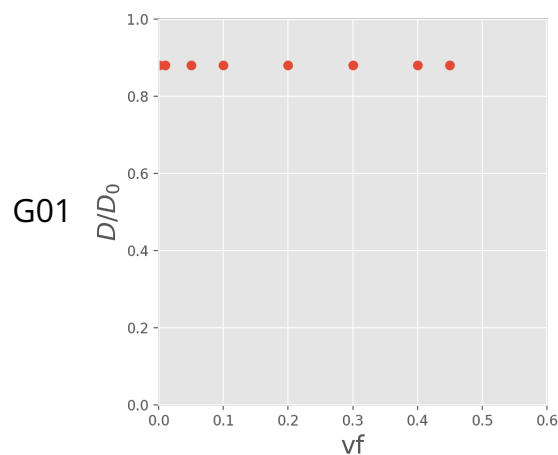
Submit   You have used 0 of 2 attempts

Homework 5-2

0.0/2.0 points (graded)

The true nature of the non-trivial density (or volume fraction) dependency of the diffusion constant examined in the previous homework is not yet understood and is listed as one of the major unsolved problems in physics. Choose the most suitable name for this physical phenomena from the following choices.

○ Critical slowing-down

○ Polymerization

○ Nucleation

○ Glass transition

○ Crystallization

○ Evaporation

○ Super-fluidity

○ Poly-dispersity

Submit   You have used 0 of 2 attempts