

PY 542: Non-Equilibrium Statistical Physics Problem Set 3

Reading: For this week, we will finish the discussion of the Langevin and Fokker-Planck equations and then turn to first-passage phenomena. Please read, in order, sections 2.9 and then 2.5–7 of the text.

Problems: Due Monday, September 26 by 5:00pm

1. Text 2.32. This problem was assigned last week, but we didn't quite cover the material relevant to the problem by last Thursday.
2. Text 2.16.
3. Text 2.17. For this problem, you have to construct a recursion formula for the higher moments of the exit time by generalizing the construction in Eq. (2.70).