

PY 542: Non-Equilibrium Statistical Physics      Problem Set 8, Fall 2011

**Reading:** This week we will complete the discussion of irreversible adsorption on Tuesday. Please finish reading sections 7.4–7.5 of the text. At the end of Tuesday or perhaps on Thursday, we begin treating the dynamics of spin systems. Please also read sections 8.1 and 8.2–8.5 of the text.

**Problems:** Due Monday, November 7 by 5:00pm.

1. Text 7.3. The problem statement is terse and the last sentence should read: “Compute the jamming coverage as a function of  $\rho_0$ .”
2. Text 7.5. To solve the master equations for  $V_m$ , you should again try the ansatz  $V_m = e^{-(m-t)t} \Phi(t)$ .
3. Text 7.12.
4. Derive the master equation for the empty-interval probabilities  $E_m$  in chaperone-assisted translocation when the chaperones are dimers. (Note: This exercise is a piece of problem 7.17 in the text.)