PY 542: Non-Equilibrium Statistical Physics   Problem Set 6, Fall 2011

Reading: This week we will cover aggregation phenomena, as presented in sections 5.1–5 of the text. Please read these sections.

Reminder: An in-class midterm will be given on Thursday October 27. I'll provide some information about the test itself next week.

Problems: Due Monday, October 17 by 5:00pm.

1. Text 5.2. (Hint: Apply the exponential ansatz, as given on page 141 of the text.)

2. Text 5.4, parts (a) and (b) only. For part (b), the wording should be: "Write the rate equations for the first 4 moments." Part (c) is hard and you may try it as an optional exercise.

3. Text 5.7. The problem is a bit terse, so let me add the following to the problem statement: "That is, substitute the scaling form (5.56) into the scaling equation (5.58) and thereby solve for the scaling function.