

Problem Set 7

Due date: Thursday, November 6, 6PM.

Problems will be collected and graded. You may bring your homeworks to class or drop them in my mailbox in front of the Physics Department office. No late homework will be considered.

1. Jackson, Problem 5.1
2. Jackson, Problem 5.3
3. Jackson, Problem 5.8

Comments:

a) Start with Eq. 5.31 of the textbook and find a partial differential equation in spherical coordinates for $A_\phi(r, \theta)$. Solve by separation of variables.

b) Proceed similar to Eq. 5.43f of the textbook and show the details of your calculation.

4. Jackson, Problem 5.13