

Problem Set 4

Due date: Thursday, October 9, 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.

HW5 will be posted Tuesday, October 7.

1. Jackson, Problem 2.13
2. Jackson, Problem 2.23
3. Jackson, Problem 2.24
4. Jackson, Problem 3.2
5. Jackson, Problem 3.3

In Problems 3.2 and 3.3, use of Eq. 3.70 of the textbook is recommended.

In Problem 3.3, note that a closed expression exists for $\int_0^R \frac{r^{2n+1}}{\sqrt{R^2-r^2}} dr$ (you can find it with Mathematica, for instance).