

Homework 5 (10 points)

1. Derive the Virial theorem for 3 D case

2. Show that $\hat{x} \hat{R} + \hat{R} \hat{x} = 0$ as well as $\hat{p} \hat{R} + \hat{R} \hat{p}$

3. Obtain the eigenstates of \hat{R} for the free particle with momentum p

4. Solve the problem 3.3 from the book.