

PHY2049 Summer 2018

Lecture 4 Review Questions

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Chapter 24: Gauss' Law

Review the following problems (challenge problems given by *):

- **Section 24.3:** 33, 37^{*1}, 39*.
- **Section 24.5:** 55, 59, 61
- **Review Problems:** 65, 75

¹*Hint: Recall that a restoring force looks like $F_x = -kx$, and that the angular frequency of small oscillations is $\omega = \sqrt{k/m}$. Consider the electron displaced from the center of the proton cloud by some small r , then find the electric field E due to the proton cloud, and the force on the electron will be $F = qE = -eE$.*