

CHAPTER OVERVIEW

1: Electric Charges and Fields

In this chapter, we begin the study of the electric force, which acts on all objects with a property called charge. The electric force is much stronger than gravity (in most systems where both appear), but it can be a force of attraction or a force of repulsion, which leads to very different effects on objects. The electric force helps keep atoms together, so it is of fundamental importance in matter. But it also governs most everyday interactions we deal with, from chemical interactions to biological processes.

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Thumbnail: The eight source charges each apply a force on the single test charge Q . Each force can be calculated independently of the other seven forces. This is the essence of the superposition principle.

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