

8.02 Electricity and Magnetism Notes

Instructor: Dr. Krishna Rajagopal — Quarter: Spring 2025

Contents

1 Electrostatics

1.1 Charge and Electric Forces (4/9/2025)

Charge unit: **Coloumb** (C)

2 Main Properties:

- Charge is quantized (some integer * e)
- Charge is conserved

Like charges repel, opposites attract

Electric Force The electric force is between 2 particles given by:

$$\vec{E} = k \frac{qQ}{r^2} \hat{r} \quad (1)$$

where q and **Q** are the charges of the 2 particles