Theme Music: Rustcycle

Capacitance

Cartoon: Randall Munroe

xkcd
Some simple models

■ Line charge \[ \lambda = \frac{Q}{L} \]

■ Sheet of charge \[ \sigma = \frac{Q}{A} \]

■ Sphere of charge \[ \rho = \frac{Q}{V} \]

Why?
Reading question

What is a biological example of a line charge?

- DNA is negatively charged!
Build up field of a line charge: What direction will it point?

Model of PE for 2 line charges (3D)
The sheet of charge

- Field is constant, pointing away from positive sheet, towards negative sheet.
- Constant!!? How can that be?