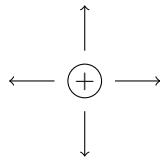# AP Physics C: Chapter 23

Zach Baylin
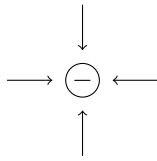
January 17, 2019

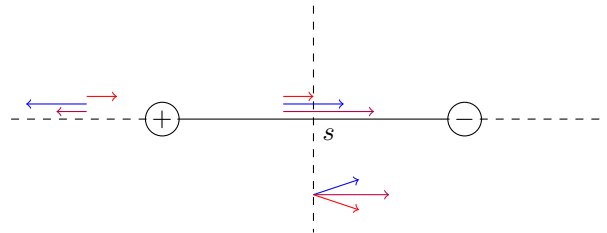## 1 Electric Field

- Positive particle:

- Negative particle:

- Properties of lines:

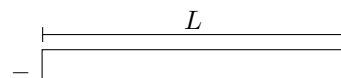   - continuous curves tangent to field vectors
    - lines never cross
    - density of lines represent magnitude
    - out of $\oplus$ into $\ominus$ or ∞

    - ex.

- ex.

- **continuous charge distribution**

- <u>uniformly charged</u>
- define λ as **linear charge density**
    * $\lambda = \dfrac{Q}{L}$
- define $dq = \lambda dL = \dfrac{Q}{L} dL = \dfrac{Q}{L} dx$
- $E_{\text{net}} = \sum_i \dfrac{1}{r\pi\varepsilon_0} \cdot \dfrac{dq}{r_i^2}$