

1-29-14 General notes (BillBOARD)

* Example 21.12 flowing
from 1-27-14 lecture +
PARALLEL PLATE CAPACITORS (intro)

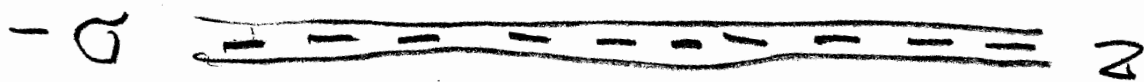
* Dipoles

and MECHANICAL EQUATIONS
of motion (sec. 21.7)

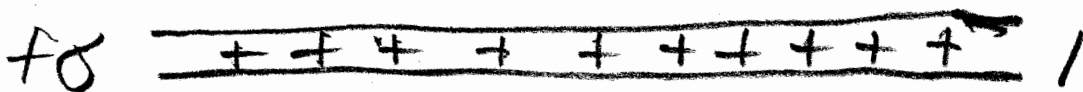
* Lab 1 - SURVEY. We
USE THIS PERIOD TO ONLY
BECOME FAMILIAR WITH TOOLS
of the simulation: JUST
TO "GET YOUR FEET WET."

SUMMARY of example 21.12

$$\vec{E}_1 + \vec{E}_2 = 0 \quad E_1 = \frac{\sigma}{2\epsilon_0} \uparrow \downarrow E_2 = \frac{\sigma}{2\epsilon_0} \Rightarrow E_1 - E_2 = 0$$



$$E_2 \uparrow \uparrow E_1 \Rightarrow E_1 + E_2 = 2 \cdot \left(\frac{\sigma}{2\epsilon_0}\right) = \frac{\sigma}{\epsilon_0}$$



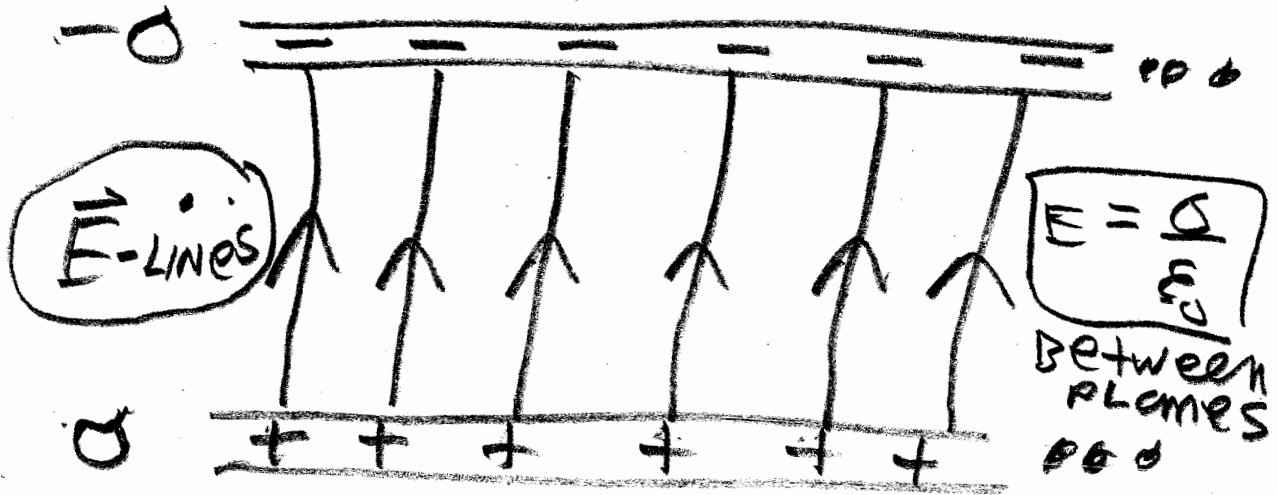
$$\vec{E}_1 + \vec{E}_2 = 0 \quad E_2 \uparrow \downarrow E_1 = E_2 - E_1 = 0$$

$$E_1 = E_2 = \frac{\sigma}{2\epsilon_0}$$

Magnitudes.

FIELD LINES VIEW OF EXAMPLE 21.12

$$E=0$$



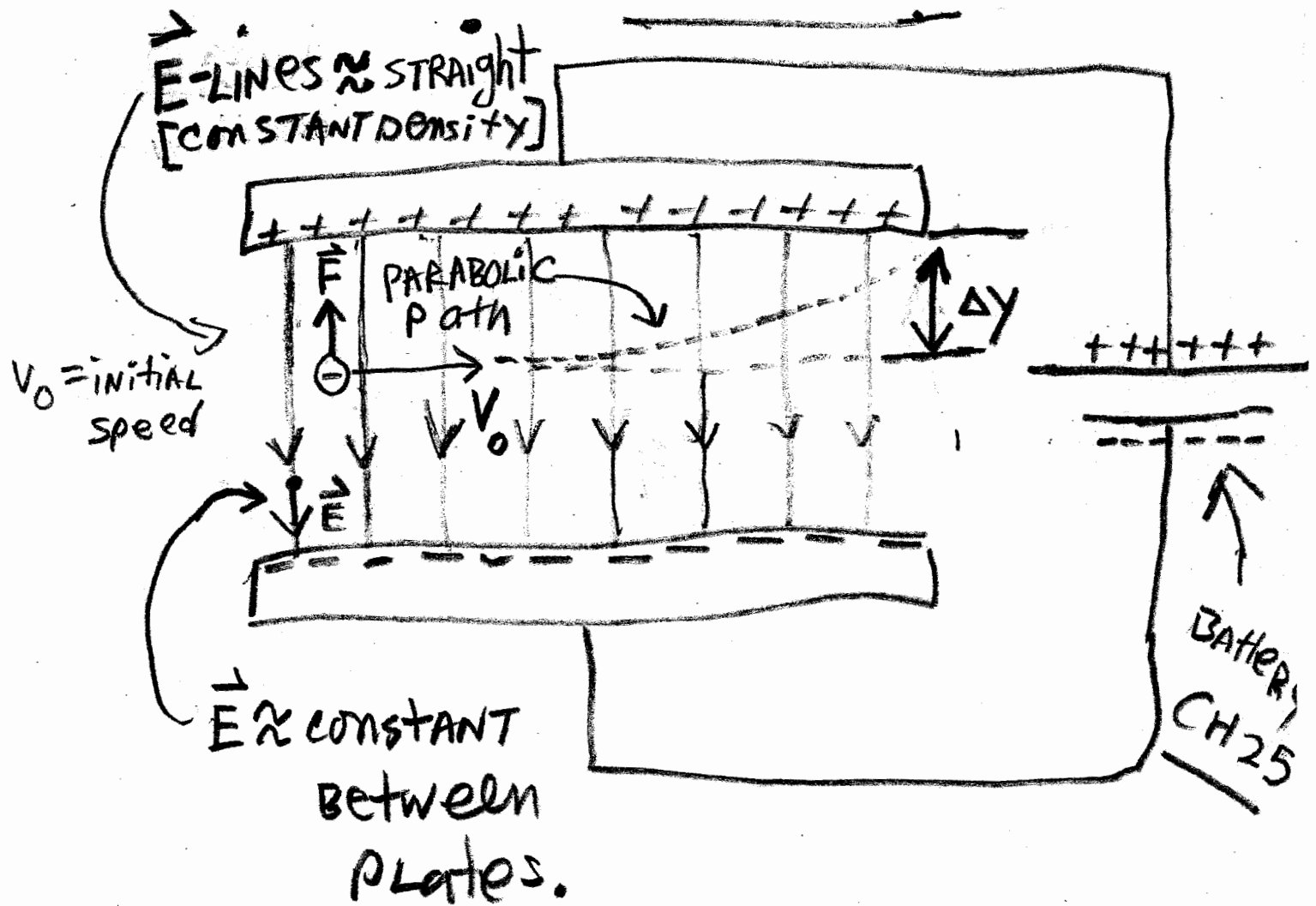
$$E=0$$

2-1-14

Lab 1 references

(3)

- * CH 3 - PROJECTILE MOTION; ALSO CH. 2.
- * Example 21.7
- * Fig. 22.21 (nice picture)
- * problems 33, 35 - CH 21.

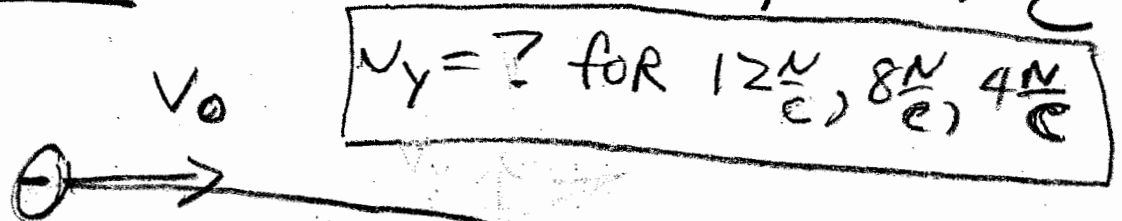


$$|\vec{E}| = E = \text{constant}; \quad \vec{F} = -e\vec{E}$$

$$F = |\vec{F}| = eE$$

Lab 1 DISCUSSION: HINTS.

QUESTION 3 FIND v_y FOR $E_y = 12, 8, 4 \frac{N}{C}$.



HINT - use time 0.55ms
of flight for

either of 2 methods:

(A) use Δy (B) use e, E and m .

$m = \text{mass}, e = |\text{charge}|$

QUESTION 3, 4 ON FRIDAY 1-31-14

FORMAT:

QUESTION 1 EXPLAIN } USE DIAGRAMS

QUESTION 2 EXPLAIN }

QUESTION 3 SHOW CALCULATIONS.

$$12 = 12.00 \frac{N}{C}$$

$$8 = 8.00 \frac{N}{C}$$

$$4 = 4.00 \frac{N}{C}$$

Sig. figs!

$$m = 9.11 \times 10^{-31} \text{ kg.}$$

$$e = 1.60 \times 10^{-19} \text{ C.}$$

$$t = 0.550 \times 10^{-6} \text{ (s).}$$