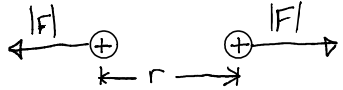


Lab 2 - Board Notes - Electric Field Around a Conductor

Monday, May 19, 2014 12:21 PM

LAB 2 - E-FIELDS AROUND A CONDUCTOR



$|F| = k \frac{|q_1 q_2|}{r^2}$  ~ COULOMB'S LAW

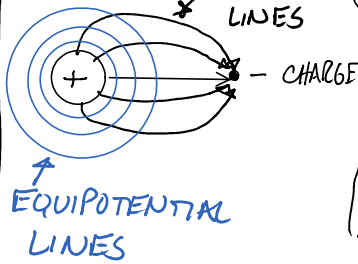
ELECTRIC FIELD = MAG. DIRECTION

$E = \frac{F}{q} = k \frac{q}{r^2}$  (V/m)

ELECTRIC FIELD LINES



POS. CHARGE (NEG. CHARGE)  
E-FIELD LINES



EXPERIMENT - DET. E-FIELD

5V 3.2V 2.8V ... 0V  
Z<sub>01</sub> 4.07 6.01 ...

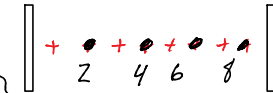
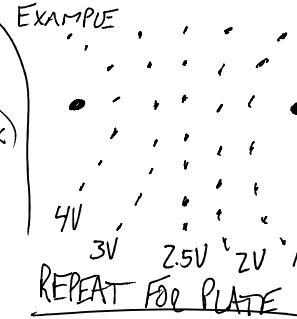


TABLE (x2)

V <sub>f</sub> /V <sub>i</sub>	ΔV	X <sub>f</sub>	X <sub>i</sub>	ΔX	E (V/m)
3.7	5V	2	0	2	calc (ΔV/ΔX)
2.8	3.7	4	2	2	
	2.8	6	4	2	
				2	

$E = -\frac{\Delta V}{\Delta m} = -\left(\frac{V_f - V_i}{X_f - X_i}\right)$   
X SHOULD BE IN (m)

PART 2: DRAW EQ. & E-FIELD LINES  
- MARK 7 TO 10 POINTS FOR 1V, 2V, 3V, 4V



SETUP - SOFTWARE

VOLTAGE SENSOR - 1 Hz  
POWER SUPPLY - DC 5V

LAB REPORT

- COVER SHEET
- QUESTIONS
- TABLES
- CONDUCTIVE PAPER
- COPIES FOR GROUP MEMBERS