**General Physics eJournal 1**

**Electric Field Mapping**

**Instructions:**

Follow the Writeup and fill out the eJournal as you complete the lab activities. Submit your eJournal report by uploading the completed WORD or PDF document to our class Learninghub site. If the Learninghub site is down, email the completed report file directly to a lab TA.

**Preliminaries:**

* Title:
* Name(s):
* Date:
* Time In & Out:

**Plan:**

**Hypothesis**

Sketch predicted equipotential and electric field lines for parallel conductors and for point conductors (electric dipole).

*Insert images of your predicted equipotential and electric field lines*

**Experiment Outline**

Briefly describe your plan for testing your hypothesis.

**Equipment List**

* List
* Equipment
* Here

**Action:**

Describe the techniques used to collect data by responding to the bullet point questions:

* What did you use for conductors?
* How did you set up the conductors on the conductive paper?
* What did you use to create the potential (voltage) difference?
* How did you map out the equipotential lines?
* How did you map out the electric field lines?

*Insert labeled images of your apparatus*

**Results:**

Take a top-view photo of your conductive paper (one photo for each part) showing the conductors, equipotential lines, and electric field lines (with arrows). Insert the two photos below and label them accordingly.

*Insert labeled images of your conductive paper*

**Analysis:**

Estimate the strength in the center between the parallel conductors using the following:

For two adjacent lines or across several evenly spaced lines,

Record the voltage difference, ΔV = \_\_\_\_\_\_\_\_\_ V

Record the distance separating the two lines, d = \_\_\_\_\_\_\_\_\_ m

Estimate E from Eq. (4). E = \_\_\_\_\_\_\_\_\_ N/C

Estimate the strength in the center between the point conductors (electric dipole) using the following:

For two adjacent lines or across several evenly spaced lines,

Record the voltage difference, ΔV = \_\_\_\_\_\_\_\_\_ V

Record the distance separating the two lines, d = \_\_\_\_\_\_\_\_\_ m

Estimate E from Eq. (4). E = \_\_\_\_\_\_\_\_\_ N/C

**Conclusion:**

Compare your predicted equipotential lines and electric fields with your measurements. How might you improve this experiment or explore it further?