

## 492 Meeting Notes

### 2/1 Meeting Notes:

- Need to be conscious of field effects with size.
- Want a singular trap to be a little larger than a phone.
- Plates should be adjustable.
  - Try not to weld so we can adjust distances between plates.
- Find a woodshop that is accessible on campus.
- We will need AT LEAST a couple hundred volts.
- Two plates for RF electrodes.
  - Any conductor that can run on current. (Copper)
- Electrode width should be about 1 inch.
- We need a sheet of copper.
  - Should prevent heat good enough.
- Plan on using styrofoam as our “particle” since it can be easily charged.
- Need to suspend particles with one trap first before we can estimate the appropriate height of the prototype.
- Also should be conscious of the charge-to-mass ratio.

### 3/21 Meeting Notes:

- Gavin’s suggestion: Take the ground leads off of the plates.
- Talked about how we need the measurements for plate distance from Gavin.
  - Start with a distance of 1mm and see what happens
- Need deflection of the electric field.
  - Proving this will help in determining the height of the second trap.

### 3/28 Meeting Notes:

- We still need to figure out the mass-to-charge ratio...
- If we can figure out the frequency of vibration of styrofoam → We can convert Hertz to Volts.
  - 10 Hz should be what the styrofoam is at to achieve stability.
  - Count the number of vibrations → Convert to Hz

- Plates and frequency need to be closely aligned.