What we did this week:

This week we started a draft of our poster, which is also turned in, so it shows the overall sections and where the figures will go, with captions describing the figures. Our figures have so far not changed much from last week, as we worked this week on having a particle move through the dipole field and ran into some difficulties. So, we’ll keep working on that next week and develop a figure of a particle moving in Earth’s dipole magnetic field. We answered, this week, some of our questions on why our dipole model looked weird and worked on some of the fixes to that visual. We are currently trying to figure out how to find the Lorentz force on a particle moving through a dipole field, since it would be computationally easiest to just use the magnetic field vector closest to the position of the particle, but this isn’t physically accurate, as all the field vectors affect the particle. Do you have a recommendation of how to model this?

Note from Brean: When we try to compute the Lorentz force on the particle based upon the particle’s position, the code just does not work (no visuals show up; just a black box) but once the lorentz force line is commented out, everything is fine again (put the particle moves in a straight line).

Also what size are the posters supposed to be?

Self-reflection:

We both worked pretty equally this week as well. Brean did more of the coding (at least definitely more of the successful coding). Brean worked on fixing the code for the dipole magnetic field of Earth and combining the particle moving with the dipole field. Laura tried unsuccessfully to get a working dipole model in cartesian coordinates instead as some of the problems in our code are in switching back and forth between coordinate systems. Since Brean spent more time coding and was more successful at that, Laura did the write-up and started the poster draft.