Central goal: Get coefficients (x2) to describe our cylindrical magnet as a dipole, allowing for fast computation.

File descriptions:

**Magdata.fld**

* Raw data output from ANSYS Maxwell FEM simulation giving a grid of magnetic field vectors over an area

**Non-Normalized\_Vectors+RSME\_Calculation.py**

* Fits magnetic field vector data to the point-dipole equation
* Gives a moderately accurate model for fitting a magnet to the equation of a perfect dipole
* Omits a certain area of data closest to the magnetic field. See df variable in script.
* Requires: Vector data for magnetic field at various sample points
  + Formatting can be seen in MagData.fld
    - This is the automatic formatting for exporting a grid of sample points on a pane in ANSYS Maxwell
  + Should consider the distances in meters but that doesn’t make all that much sense. Please verify this.

**Normalized vectors.py**

* Does basically the same thing as Non-Normalized\_Vectors\_RSME, just graphs them with normalized vectors so it’s a little easier to see field directions

There are also 2 ansys maxwell files for the FEM simulation of the cylindrical magnet.