

The basic structure of our project is dependent on how well the proceeding step goes, but the outline is this: Introduction to tensor useage in E&M, next we perform the derivation of some object X (see previous proposal for details) and it's relation to the Maxwell stress tensor, followed by a (hopefully) interesting problem which can be solved using our new object X . After these steps are performed we hope to find either some (simple) experiment which can be performed that will reveal something about X and/or its relationship to T . If we cannot construct a good experimental idea which will fit within the time constraints of the project, we will allow more time to do a computational aspect of X and hopefully find a nice way to analytically solve its relation to T . Note: A computational aspect will be included regardless as per the requirements of the project.

On the logistics side, Anna and I will be working together twice a week on the project and solve most, if not all, of the project as a team rather than breaking it into different pieces which are performed separately. This is important because our problem is mostly a critical thinking endeavor rather than some large scope problem, and so the mechanics which we use to solve and think about the project are especially important, so it would be most useful to have both team members on the same page at all times. The tentative timeline is as follows:

Week:

- I. Derivation.
- II. Derivation/Relation to T .
- III. Construction of application for X
- IV. Solving part III/Analytical model
- V. More analytical work/perhaps brief experimental interlude
- VI. Final construction of poster