**[TITLE]**

[Authors]

1. **Summary**

Here you should briefly summarize the work you would like to do. The three main ideas a proposal should communicate are: (1) Communicating novelty and/or importance of the study (why it should be done), (2) Explaining proposed work with specificity (what will be done), and (3) Methods and techniques to be employed (how it will be done). All three should appear briefly in the summary before appearing in more detail in the following sections.

1. **Scientific Background**

Here you provide the detailed explanation of why your research question is worthy of exploration. Communicating this idea will generally require a summary of (1) the current state of the field, (2) any gaps in understanding or currently unexplored terrain, and (3) how your work will fill that gap or improve the boundaries of our knowledge. This generally requires reference to the literature, and most of our citations of published work end up here.

For your project, it is too much to expect you to address all three. Rather, communicate for me (1) some background on the physical theory behind the property you are investigating, (2) at least one example of someone studying this property in a material and (3) a brief description of the material you would like to study.

1. **Proposed Research**

In this section you detail your proposed research. Explain the specific research question you plan to investigate and the computational experiment you will perform to answer it. For example, you might consider how the displacement of Ti in BaTiO3 affects the dielectric constant, and so you would describe the convergence testing you need to perform, specifically how you plan to shift the Ti location (along multiple axes or just one?), whether or not you are relaxing the other positions (or maybe you’re going to do both), etc.

Close with your hypothesis, that is, what you expect to find, and a bit about why you expect this result.

1. **Methods**

Here you should describe each of the unique DFT calculations you need to perform. Each project will require performing at least one new type of calculation. You will need to look up the documentation or examples of performing this calculation and describe the parameters you will need to change to be able to perform the new calculation.