

## Spring 2017 Modern Physics Project – The passage of particles through matter

### Overview

The end goal of this project will not be a paper or a presentation, instead your understanding of the topic will be tested by seeing how well you can apply your understanding to new situations. To understand means to really know what is going on, not just regurgitate the right phrases onto a sheet of paper. Doing this will likely require you to research and understand many different topics that might not be covered in this class or in any IMSA class. This project will have multiple parts. I will give more information about each of them as the project progresses.

**Part I:** (100 points) Students will work in groups of two (or three if needed) to make a powerpoint presentation about the **interaction of high energy radiation with matter**. The powerpoint slides are for me to read—*you will not actually give this presentation*.

### The Powerpoint

In physics, presentations are the primary mode of communication within a research collaboration. A good set of slides not only aids your presentation; it is also a record of what you've done, and it is archived so that people who missed the meeting can go back and read the talk. The powerpoint file needs to stand by itself so that a reader can understand it.

Here are some guidelines to make sure to follow:

- You have a **five-slide limit**. Fewer than five is absolutely fine. No one should need more.
- Visuals can be very informative, especially for some topics. I recommend using them whenever you can—but if it is a complicated picture or plot make sure you explain it.
- Don't write paragraphs of text, but make sure to include enough text to explain what you need to.
- Numbers and formulas are very good to include, but too many numbers or formulas are overwhelming. Choose important, relevant numbers and formulas to share without throwing too many of them at me.
- Remember references, you can cite sources any way you like as long as I will be able to find your source. (if you use a bibliography your references do not count towards your five slide limit)

The powerpoint is due before midnight on the night of **Thursday February 16<sup>th</sup>**. Late projects will be penalized.