

PHYS 5130: Guidelines and Instructions for Final Paper and Presentation

For both the final paper and presentation, you are required to review at least three articles, one of which you presented at the beginning of the semester. The other two articles must be closely related to the main article, such as a follow-on measurement, directly related theoretical support, contradictory interpretation, previous measurement that failed to capture the effect, etc. Both the presentation and paper should be in the following form: introduction (what is being studied, why is this important, have others done something similar); methodology (what techniques did they use, what are the important theoretical, calculation, or experimental parameters/methods involved); results (what did they find); analysis (how did they make sense of their results; this section can be combined within the results section); discussion (are there problems with the method/analysis, can this technique/measurement/finding be applicable to science/technology/physics writ large, can the authors reasonably defend what they claim, what kind of improvements can you imagine). In the discussion section, you can add in your own insights and commentary. Figures can and should be included to strengthen and improve your discourse. That being said, please write your own captions and cite appropriately. The paper, including figures and references (in the *Phys. Rev. Lett.* style) is limited to five pages (single column, 12 pt font, 1 inch margins). Because of the nature of this class, you should strongly consider writing the paper in L^AT_EX.

For the presentation, you will be graded on four main elements: (1) graphical presentation; (2) explanation of relevant points in the paper; (3) handling of questions; and (4) speed and pacing of the presentation. In addition, I will assign an overall grade based on these four criteria that also takes into account the overall ‘feel’ of the presentation. I am specifically looking for whether or not you fully and succinctly capture the main point(s) of the three works and illuminate the audience on the importance and significance of these points. You will be given 16 minutes to present up to 20 slides, with 4 minutes left for questions. Use of the blackboard/whiteboard is allowed. As always, I strongly suggest that you practice beforehand to refine your flow, pacing, and word selection.