

Physics 598 PEN – Spring 2022

Assignment #2: Create and Present a “Journal Club” Talk and Referee Report

This assignment will consist of two parts:

I. Journal club presentation: Select a short (≤ 5 *PRL*-style pages) journal article either from the arXiv (<http://arxiv.org/>) or from a recent general science journal such as *Science*, *Nature*, *Physical Review Letters*, *Physics Today*, etc. This paper should be in an area related to your research, but should not be from you or anyone in your research group. Prepare a 20-minute PowerPoint presentation that describes and critiques this article. Your “journal club” presentation should include the following elements:

- (i) A summary of the article.
- (ii) A presentation of relevant background material.
- (iii) A discussion of the article’s results and conclusions.
- (iv) A critical analysis, by you, of the results and conclusions presented in the article.
- (v) A summary of the author’s conclusions and of your conclusions about the paper

The due dates for your journal club presentation are as follows:

Friday, Feb. 11: Select a paper – Send (by e-mail: slcooper@illinois.edu) Lance Cooper an electronic copy of the paper that you have selected. More than one person cannot give a journal club talk on the same paper.

February 25, March 4, and March 11: Journal Club in-class presentations

II. Referee report – In addition to the journal club presentation, you must prepare a ~ 1 page “referee report” that critically evaluates your journal club paper. The referee report is due the week your presentation is scheduled. Your report must specifically evaluate the paper based upon the following 3 (*Physical Review Letter*-type) criteria, providing examples and support for these evaluations:

- (i) “Scientific validity” – Are the methods used valid, and are the logical arguments given to support the conclusions valid and persuasive?
- (ii) “Importance” - Does the paper report substantial research that will likely have a significant impact on future research?
- (iii) “Broad interest and accessibility” – Do the results reported have significant implications to various subfields, and is the paper written in such a way that it can be understood by a general (i.e., non-expert) audience?