

Homework Assignment #1, Getting Familiar with arXiv and Evaluating Titles

This assignment consists of the **four** components enumerated below—make sure you submit something for each component.

To begin, go to <http://arxiv.org> and read the “General Information” page (find the link near the bottom of the screen in the “About arXiv” section). Poke around a bit on the website and get familiar with it if you’ve not used it before. Because of the delay in getting papers published in the peer-reviewed literature, physicists often post a “preprint” on arXiv to get results out to the community faster.

Caveat lector! The papers posted to arXiv have not been peer reviewed; any crackpot can post *anything* to arXiv. For example, look up 0909.3189 and note the arXiv administrator’s comments:

The screenshot shows the arXiv page for the article "Schrödinger equation of general potential" by Xiang-Yao Wu, Xiao-Jing Liu, Yi-Heng Wu, Qing-Cai Wang, and Yan Wang. The article is submitted on 17 Sep 2009 (v1) and revised on 1 Dec 2012 (v2). The abstract states: "It is well known that the Schrödinger equation is only suitable for the particle in common potential $V(\vec{r}, t)$. In this paper, a general Quantum Mechanics is proposed, where the Lagrangian is the general form. The new quantum wave equation can describe the particle which is in general potential $V(\vec{r}, \dot{\vec{r}}, t)$. We think these new quantum wave equations can be applied in many fields." The comments section contains a yellow highlight: "arXiv admin note: substantial text overlap with arXiv:0909.2995, and text overlap with arXiv:0711.3544 by other authors without attribution". The subjects are listed as "Quantum Physics (quant-ph)". The journal reference is "International Journal of Modern Physics B, Vol. 25, No. 15, (2011), 2009-2017". The DOI is 10.1142/S021797921103616. The citation information is "arXiv:0909.3189 [quant-ph]" or "arXiv:0909.3189v2 [quant-ph]". The submission history shows the article was submitted by Xiang-Yao Wu on 17 Sep 2009 and revised on 1 Dec 2012. The right sidebar contains download options (PDF, PostScript, Other formats), current browse context (quant-ph), references and citations (INSPIRE HEP, NASA ADS), and a bookmark section.

As an experiment, type <substantial text overlap without attribution> (without the brackets) in the “Search or Article ID” box in the upper right corner of the screen and see what happens.

The screenshot shows the arXiv search bar with the query "substantial text overlap without attribution" entered. The search bar is located in the upper right corner of the page. The page also shows the Cornell University Library logo and the arXiv.org logo. The search bar is highlighted with a yellow box, and a blue arrow points to it from the text above.

(Hint: Look for the **comments** line immediately below the authors’ names in the results.) In particular, note the commentary for arXiv:2312.01609, “Smoothing Accelerated Proximal Gradient Method with Fast Convergence Rate for Nonsmooth Multi-objective Optimization.” Make a mental note of this feature of arXiv for our discussions later in the semester on plagiarism and the proper referencing of others’ work.

Next, go to the **Physics** section on the main page, select a subfield that you’re interested in, and click on the **recent** link (in parentheses to the right of the section name). Scan down the list of titles that appear on the next screen.

1. Select one paper that you think has a particularly good title, and one that you think has a

particularly bad title, based on our class discussions. In making your selections, glance over each paper and read at a minimum the abstract and the conclusions section to see how well (or poorly) the title reflects the contents of the paper. Write down the full bibliographic citation for each paper (i.e., author names, title, arXiv ID number, date submitted). Be sure you clearly identify which is the “good” title and which is the “bad” title.

2. Write a \approx 200-word (about 8 sentences or two short paragraphs) evaluation of *each* title (\approx 400 words total for the assignment). Justify why you assigned the “good title” and “bad title” designations to your two choices.
3. Suggest a revised title for the paper whose title you deemed “bad” and *explain why you think your title is better*.
4. Upload your completed assignment to the my.physics upload portal by **Friday, September 6, by 9 p.m.** Assignments submitted after the deadline will be downgraded and will be ineligible for rewrite points. You may submit a late assignment through the portal until 8:59 p.m. Sunday, September 8. If you must submit an assignment after the late deadline, [email it to Celia](#).

Total—50 points

†Technical writing lesson of the day: The \sim symbol does *not* mean “approximately equal to”; it means “asymptotically equal to” or “of the order of magnitude of.” If you really mean “approximately equal to,” use the “Insert Symbol” command in Word to insert a \approx .