

Homework assignment (Gade)

Objective: Publications, nuclear data and references are critical resources for experimentalists and theorists alike. This assignment is aimed to showcase the resources out there that help to quickly gather information on a particular nucleus or physics topic. The exercise hopefully will provide strategies towards being able to understand a letter article in nuclear physics well enough to articulate the science case.

After reading the letter article assigned to your group ...

No epic responses needed: Try to be to the point and extract the gist of it all (one to two short paragraphs).

1. What is the goal and why is the goal relevant for the field (broader impact)? (group discussion)
2. What experimental and/or theoretical challenge was overcome? How? (group discussion)
3. Identify a reference that is central to the key importance to the work. Use ISI [Web of Science](#) and the journal website to collect other relevant references on the topic that are not quoted in the letter. For that, use (i) the references given in the key citation you identified and (ii) explore the papers that *cite* your key reference. ISI and most if not all journal websites provide this information. With that, make a list of additional references that you think is useful to understand the relevance of the paper. (individual)
4. For the center nucleus or for one of the nuclei discussed in your letter, use [Evaluated Nuclear Structure Data](#) (ENSDF) to learn what is known. Familiarize yourself with the format and the information presented. Look at other nuclei in the isotopic chain or neighborhood, can you see evidence for why the measurement in your letter was so noteworthy or challenging? Look at the [unevaluated data](#) (XUNDL) and see if there were noteworthy updates compared to ENSDF. (individual)
5. Use the [Nuclear Science References](#) (NSR) to get experimental and theoretical references for the nucleus. When was the first experimental/theoretical study that led to a publication? How has the picture changes since then? (individual)
6. Make three powerpoint (or equivalent) slides that get across for your letter (i) the motivation and relevance, (ii) the experimental/theoretical approach, and (iii) the result, conclusion and outlook. (developed and discussed within group)

Organizers help to form groups of 3-4 students (good mix in terms of experience, experiment, theory, ...)

Group picks a letter-like article from the list:

<http://journals.aps.org/prl/abstract/10.1103/PhysRevLett.114.202501>

<http://journals.aps.org/prl/abstract/10.1103/PhysRevLett.114.232502>

<http://journals.aps.org/prl/abstract/10.1103/PhysRevLett.114.192502>

<http://journals.aps.org/prl/abstract/10.1103/PhysRevLett.113.082501>

<http://journals.aps.org/prl/abstract/10.1103/PhysRevLett.114.041101>

<http://journals.aps.org/prl/abstract/10.1103/PhysRevLett.113.032505>

<http://journals.aps.org/prl/abstract/10.1103/PhysRevLett.114.022501>

<http://journals.aps.org/prl/abstract/10.1103/PhysRevLett.113.042502>

<http://journals.aps.org/prl/abstract/10.1103/PhysRevLett.113.102501>

<http://journals.aps.org/prl/abstract/10.1103/PhysRevLett.113.012502>

<http://www.nature.com/nature/journal/v497/n7448/full/nature12073.html>

<http://www.nature.com/nature/journal/v502/n7470/full/nature12522.html>

<http://journals.aps.org/prl/abstract/10.1103/PhysRevLett.113.082502>