

How to Read a Physics Paper— The Four I's

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The first *i*: *importance*

Does the paper contain information (methods, results, conclusions) that has implications for your research? (Is the paper worth reading?)

Read the title and the abstract

Look at the author list and their affiliations

Read the conclusions

Look at the figures and read the captions

Look at the references

Second *i: iteration*



Take the paper apart, section by section, and identify the key ideas

Highlight anything you don't understand so that you can come back to it later

Cross-check the narrative with the figures and tables

Go back and re-read your highlighted sections; refer to the references or supplementary info

→ Repeat until you thoroughly understand the parts of interest to you

The third *i: interpretation*



Put the paper aside and write down the key ideas in your own words

Check what you've written against the paper; have you correctly represented the ideas and emphasis of the original paper?

Are there parts that you still don't understand?
(go back to *iteration*)

Do you agree with what the authors have said?
Have they provided sufficient detail and supporting evidence?



The final *i: integration*

Evaluate how the information presented in the paper fits with what you already know

Does it contradict something that you believe?

Does it raise new questions that you should investigate?

Does it describe a method that you could use?

Is it something that you should refer to in the future? (If so, how are you going to keep track of it?)

One more *i: investigation*



Devise a system to keep track of what you read

Many software solutions are available

(https://en.wikipedia.org/wiki/Comparison_of_reference_management_software)

Several are supported by the UI Library

EndNote, Mendeley, RefWorks*, Zotero

Coming up: “Choosing a Citation Manager”

Sept 17, 10:00 a.m. to 10:50 a.m.

Main Library (Armory & 6th Street)

Room 314

Savvy Researcher Workshops

<http://illinois.edu/calendar/list/4068>

To recap:

Importance—first determine if the paper is worth reading

Iteration—go back over sections of the paper until you understand it; consult other sources if necessary

Interpretation—summarize the main points in your own words

Integration—synthesize the ideas with what you already know and believe

Investigate a citation management system to keep track of what you read

