

## Homework Assignment #7, Evaluating Figures and Captions

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Effective figures and captions are critical to communicate scientific work in meaningful, memorable, concise ways. Unfortunately, many figures and captions published in scientific articles are less than ideal. The purpose of this assignment is to give you practice in critically evaluating figures and captions so that you will be better able to design your own.

To prepare for this assignment, first read [Chapter 9, “Graphics and Their Place,”](#) in Scott Montgomery’s *Chicago Guide to Communicating Science* (Chicago, University of Chicago Press, 2003). A copy of the book is also on reserve at the Grainger Engineering Library.

Next, look at the figures in recent articles published in *Physical Review Letters*. Go to <http://prl.aps.org/> and click on the “Recent Papers” tab; then click on the title of a paper that looks interesting to see the abstract. From the abstract page, click on the “Download PDF” link to see the full paper.)

If you are working on this assignment from a computer not on the .illinois.edu domain (e.g., from your apartment or a coffee shop), you’ll get a request to pay a fee to download the paper. To obtain the paper free of charge, log on to the PRL website through the UI Library gateway. Click on the <Physics Library> link in the footer of any Physics Illinois webpage to access the site. If you’re outside the University domain, you’ll be asked to log on using your netid and AD password when you click on the link.

This homework assignment consists of identifying one “good” figure and caption and one “bad” figure and caption of your choice. Use the criteria given in the Montgomery book (pp. 116–117) to evaluate your figures. Copy and paste the image and caption from the journal into separate pages in your homework document, and be sure to label which figure is the good figure and which is the bad. Then write a brief analysis of each figure and caption and justify your assessments. Be sure to give the complete bibliographic citations (authors’ names, title, journal, volume) for the papers from which you took the figures.

We’ve provided a [famous example](#) from Edward R. Tufte’s classic, *Visual Explanations: Images and Quantities, Evidence and Narrative* (Cheshire, CT, Graphics Press, 1997) to show how figures can be improved to communicate the maximum information clearly and compellingly.

Due: **Friday, October 27, 9:00 p.m.** Email your figures in one file to [phys496@physics.illinois.edu](mailto:phys496@physics.illinois.edu). Assignments submitted after the deadline will have points deducted and will be ineligible for rewrite points.

Total—100 points (25 points each for the suitability of your two examples and 25 points each for your written analyses of the figures).