Writing Physics and Astronomy Articles

Valued qualities:
- Clear, cogent, brief, logical, and linear presentation of material
- Correct physical concepts
- Demonstration of completeness of numbers and units used to describe quantities
- Correct grammar, punctuation, and sentence structure

Parts of an article:
Title block, Abstract, Body, Figures and tables, Reference list

Title block:
1. Title: Physical system or effect studied, tools and techniques, conclusions reached.
2. Author list: Author names and affiliations, arranged in order of decreasing contribution—major writer first—OR alphabetical order.
3. Abstract: A single paragraph that “markets” your paper by combining a qualitative conclusion with key measurements. Place the major point near the beginning.

Body:
1. Decide on your audience. This will dictate what you can assume your reader knows as well as what you will need to explain and in how much detail.
2. In your introduction, place your experiment in a context.
3. Avoid declaring an experiment successful or unsuccessful; simply report your results.
4. Create a short conclusion that summarizes the article, speculates on the future value of your work, suggests improvements to the current experiment, and makes suggestions for future experiments.

Figures and tables:
- These support what has been written in the body, which must be so clear that figures and tables are illustrative, not essential.
- Captioned figures are generally more convincing than tables of unanalyzed data.

References in the text and as endnotes
1. Five possible sources: personal observation, “common knowledge,” logical/mathematical conclusions, hypotheses, information from others. Only the last must be referenced. Include Internet sources only if they have been peer reviewed.
2. Number sources sequentially in the text in brackets.
3. Bracketed number, author’s first initials, last name, abbreviated journal title, volume, page number(s), and year published.
General style:
- Quantify everything possible, and indicate the reliability of numerical results.
- Treat equations as part of the text, explaining what assumptions or relations are at the origin of the derivation. Number these consecutively in parentheses.
- Number Figures consecutively.
- Write in paragraph style.
- Write using only full sentences (make sure each sentence has a verb). APS calls this “Text and math as sentences.”
- Use first-person pronouns (I, we) but never second-person pronouns (you).

Sources:
Marquette University, *Writing in Physics Courses*.
A. Waldron *et al.*, *APS Physical Review Style and Notation Guide*. 

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