Writing Effective Abstracts

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Be aware of two immutable rules for abstracts:

Every article submitted to a journal or a conference *must* have an abstract

The quality of your abstract determines whether anybody actually *reads* your paper or comes to your talk

Answer four simple questions to create a perfect abstract

1. What problem did you study and why is it important?
2. What methods did you use?
3. What were your main results?
4. What conclusions can you draw from your results?

Make your sentences as *specific* and *quantitative* as possible

Control the length of your abstract by the length of your answers to the four questions

Short abstract? **one-sentence answers**

Longer abstract? **several sentences**

One-page abstract? **one-paragraph answers**

Stick to the 4-point rule—
Don’t omit answers to shorten an abstract or add superfluous points to lengthen one

Use this checklist to critique your abstract:

- ✓ <u>Subject</u> of the paper is stated immediately
- ✓ Scope and <u>objectives</u> of the work are described
- ✓ <u>Methods</u> and operational ranges are specified
- ✓ Significant <u>findings</u> are summarized
- ✓ <u>Results</u> are emphasized

Follow these style conventions:

- ✓ All abbreviations, acronyms, mathematical expressions, and special symbols are defined
- ✓ Only simple (linear) equations are used
- ✓ No figures or tables are included
- ✓ The abstract stands alone
  - No mention is made of figures, tables or equations used in the main text
  - No references are cited

Define all acronyms and initialisms (A&Is)

Write out the words first, followed by the acronym in parentheses ( )

- **Rossi X-ray Timing Explorer (RXTE)**
- **superconducting quantum interference device (SQUID)**

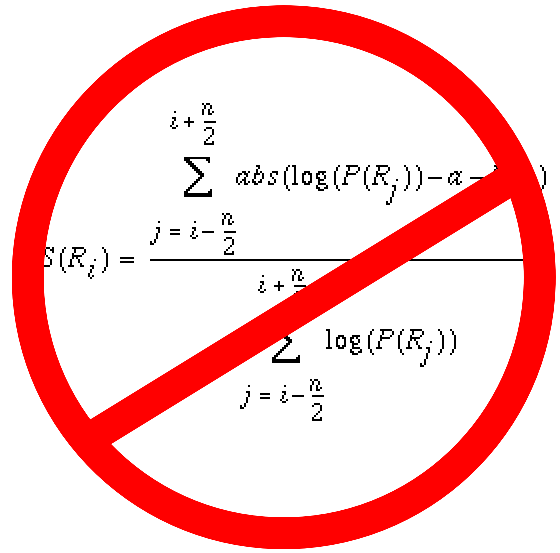
The AIP lists common physics acronyms that need not be defined on first use

- **BCS (Bardeen–Cooper–Schrieffer)**
- **emf (electromotive force)**
- **NMR (nuclear magnetic resonance)**
- **dc (direct current)**

http://www.aip.org/pubservs/style/4thed/AIP_Style_4thed.pdf

Any equations must be simple enough to be rendered linearly

$$\tau = 2^{-1/1}(t+z),\ \mathcal{Z} = 2^{-1/1}(t-z)$$



Abstract: We examine the formal foundations of quantum electrodynamics in the infinite-momentum frame. We interpret the infinite-momentum limit as the change of variables **tau =2/sup -1/1/(t+z), Z=2/sup -1/1/(t-z)**, thus avoiding limiting procedures…

Read your abstract critically

- ✓ Ideas are expressed clearly and <u>concisely</u>
- ✓ Language is familiar and precise
- ✓ Standard nomenclature and notation are used
- ✓ Stylistic conventions are observed
- ✓ Text is free of typographical errors
- ✓ Length conforms to instructions from journal or meeting organizers